

PROSPECTIVE PAYMENT
ASSESSMENT COMMISSION

REPORT AND
RECOMMENDATIONS
TO THE SECRETARY,
U.S. DEPARTMENT
OF HEALTH AND
HUMAN SERVICES
MARCH 1, 1988

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March 1, 1988

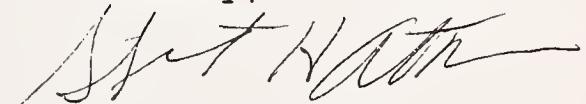
The Honorable Otis Bowen, M.D.
Secretary
Department of Health and Human Services
Washington, D.C. 20101

Dear Mr. Secretary:

I am pleased to transmit to you the annual report of the Prospective Payment Assessment Commission as required by Section 1886 (e)(4) of the Social Security Act as amended by Public Law 98-21. This report contains 18 recommendations updating the Medicare prospective payments and modifying the diagnosis-related group (DRG) classification and weighting factors.

The report also provides information on the Commission's priorities, the status of the Medicare Prospective Payment System to date, and a description of ProPAC's agenda for coming years.

Sincerely,



Stuart H. Altman, Ph.D.
Chairman

Enclosure

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Executive Summary

Executive Summary

In this report, the Prospective Payment Assessment Commission (ProPAC) presents recommendations to the Secretary of the Department of Health and Human Services (HHS) on ways to update and improve the Medicare prospective payment system (PPS) for fiscal year 1989. The 18 recommendations in the report reflect the collective judgment of ProPAC's 17 Commissioners regarding issues of substantial importance to beneficiaries, hospitals, and the Medicare program.

The Commission presents these recommendations to comply with its statutory mandate and to contribute to an informed and open debate about hospital payment policy under PPS. The recommendations were produced through a process of agenda setting, information collection, analysis, and deliberation that has continued since the publication of the Commission's report to the Secretary in April 1987. The proposed changes are necessary, in the Commission's view, to maintain access to high-quality health care, to encourage hospital productivity and cost-effectiveness, and to permit the adoption of innovative and appropriate technological change. The following major areas are addressed in this year's recommendations.

Updating PPS Payments—The Commission recommends an average increase in the level of PPS prices of 3.9 percent for fiscal year 1989. This would provide an increase of 3.8 percent for urban hospitals and 4.6 percent for rural hospitals.

The update factor recommendations combine several components. The largest is the PPS market basket, which is used to estimate inflation in the prices of goods and services purchased by hospitals. At the time the Commission developed its recommendation, the market basket was forecast to increase 5.1 percent in fiscal year 1989. The Commission also recommends a net negative adjustment of 0.1 percent, which takes into account scientific and technological advancement, improvements in hospital productivity, and changes in hospital case mix. The market basket and case-mix

components of the update factor may change as more recent data and forecasts become available.

In addition, the Commission's recommendation includes an average 1.1 percent reduction to the standardized amounts for fiscal year 1989. This reduction is the average of a 1.2 percent reduction for urban hospitals and a 0.4 percent reduction for rural hospitals. It is the second-year portion of a reduction that the Commission recommended phasing in over three years beginning in fiscal year 1988. The three-year reduction is intended to adjust PPS payments to account for part of the difference between actual first-year PPS costs and the cost projections underlying the payment rates for that year.

Adjustments to the PPS Payment Formula—The Commission recommends several technical improvements in the calculation of PPS payments. These recommendations address: additional payments to hospitals for inpatient-related capital costs incurred at other facilities; continued assessment of indirect teaching and disproportionate share adjustments; improvements in hospital labor market areas; and revisions to and further study of Sole Community Hospital (SCH) policies.

Quality of Care—The Commission is concerned about the impact of PPS and the Peer Review Organization (PRO) program on quality of care. The Commission urges a comprehensive synthesis, analysis, and evaluation of the findings from PRO review activities.

Patient Classification and Case-Mix Measurement—The Commission continues to believe that diagnosis-related groups (DRGs) are the most appropriate available measure of hospital case mix for PPS. ProPAC reiterates its conclusion that available data can and should be used to refine and improve the DRGs. The Commission also stresses the necessity and feasibility of improving the International Classification of Disease (ICD-9-CM) coding system and its use in DRG assignment.

DRG Classification and Weighting Factors—

The Commission offers several recommendations to improve the ability of the DRGs to reflect relative resource use of hospitalized Medicare patients. It calls for recalibrating the DRG weights on the basis of charges adjusted to estimate costs rather than charges alone. ProPAC also recommends changes in the DRG assignment for cases with surgical procedures unrelated to the principal diagnosis (DRG 468), and in outlier payments for burn DRGs.

Outlier Payment Policy—

The Commission believes that current outlier payment policy needs substantial reform. ProPAC recommends movement to hospital-specific cost-to-charge ratios for calculation of cost outlier payments. The Commission also prefers outlier payments that are more closely related to the actual costs of treating extraordinarily expensive cases. In addition, the Commission believes that once a more optimal payment strategy is developed, allocating a higher proportion of PPS payments to outlier cases should be considered.

AGENDA FOR THE FUTURE

The Commission's mandate requires it to recommend appropriate updates and improvements to PPS. ProPAC also assesses the impact of PPS on health care delivery and financing. In the early years of PPS, the Commission's attention was focused on achieving technical improvements in the system. Continued refinements of PPS, however, are increasingly dependent on broader-based evaluations of the program and determination of its impact.

The major Medicare and PPS issues the Commission believes require further analysis and public policy attention are:

- The level of PPS payments—refining the empirical foundation for the annual update in PPS prices;
- The distribution of PPS payments across types of hospitals—increasing the understanding of the extent to which payment differences correspond with underlying variations in resource use, and the implications this relationship may have for interhospital equity;

- The data used for analyzing PPS payments—improving the accuracy, timeliness, and comprehensiveness of data used to inform PPS payment decisions;
- Hospital behavioral responses to PPS—identifying ways in which PPS has brought about changes in the organization and management of hospital services;
- The shift of patient care services to settings outside the hospital—establishing ways to examine the full range of services provided in and outside the hospital during an episode of illness; and
- Beneficiary access and quality of care—identifying the effects of PPS on beneficiaries, including both inpatient and out-of-hospital care.

The Commission continues to be concerned about how PPS and other changes in health care delivery and financing affect the health care system. In June 1988, ProPAC's report to the Congress, *Medicare Prospective Payment and the American Health Care System*, will address these issues.

REPORT ORGANIZATION

Chapter 1 discusses the Commission's role and priorities, as well as recent changes in health care financing and public policy. This chapter also summarizes changes in the Medicare prospective payment system since its inception. Chapter 2 presents ProPAC's 18 recommendations for improving PPS. These recommendations fall into six broad areas for fiscal year 1989:

- Updating PPS payments,
- Adjustments to the PPS payment formula,
- Quality of care,
- Patient classification and case-mix measurement,
- DRG classification and weighting factors, and
- Payment for outlier cases.

Chapter 3 outlines the Commission's proposed analytic agenda. It describes the issues that ProPAC intends to study in the near future.

The Technical Appendixes, a separate volume accompanying this report, contain the descriptive and analytical studies conducted by staff and outside experts that were the basis for the Commission's recommendations.

RECOMMENDATIONS FOR FISCAL YEAR 1989

Updating PPS Payments

Recommendation 1: Amount of the Update Factor for PPS Hospitals

For fiscal year 1989, the standardized amounts should be updated by the following factors:

- An average 1.1 percent reduction to reflect first-year PPS cost information. This reduction entails separate adjustments for urban and rural hospitals of 1.2 and 0.4 percent, respectively;
- The projected increase in the hospital market basket (currently estimated to be 5.1 percent);
- A discretionary adjustment factor of 1.4 percentage points composed of the following:
 - A positive allowance for scientific and technological advancement, offset by an equal negative allowance for productivity improvement, with no adjustment for site-of-care substitution; and
 - A positive allowance for real case-mix change (currently estimated to be 1.4 percent).

In addition, the DRG weights should be adjusted to remove any increase in the average DRG weight occurring during fiscal year 1988 (currently estimated to be 1.5 percent).

This recommendation reflects the Commission's judgment about the appropriate increase in the level of PPS prices for fiscal year 1989. It assumes that the Commission's other concerns regarding the payment formula and the DRG weighting fac-

tors are also addressed in the fiscal year 1989 payment rates.

Recommendation 2: Adjustment to the Level of the Standardized Amounts

The update factor for fiscal years 1989 and 1990 should include an adjustment to lower the standardized amounts an average of 1.1 percent each year. The urban standardized amount should be reduced by 1.2 percent, and the rural amount by 0.4 percent. The adjustments are based on the Commission's judgment of how information on average Medicare costs per case from the first year of PPS should be incorporated into the update factor.

Recommendation 3: Allowance for Scientific and Technological Advancement and Productivity Improvement Goals, and Site-of-Care Substitution

For fiscal year 1989, the net allowance for scientific and technological advancement, productivity improvement, and site-of-care substitution in the discretionary adjustment factor should be zero.

Recommendation 4: Adjustments for Case-Mix Change

For fiscal year 1989, the update of PPS standardized amounts should be adjusted for case-mix change in the following manner:

- A positive allowance in the DAF of 0.5 percent for within-DRG case-complexity change;
- A positive allowance in the DAF of 0.9 percent for across-DRG patient-distribution change; and
- An across-the-board reduction in the DRG weights for increases in the case-mix index during fiscal year 1988, currently estimated to be 1.5 percent.

Recommendation 5: Update Factor for Excluded Hospitals and Distinct-Part Units

For fiscal year 1989, a target rate-of-increase factor, separate from the PPS update factor, should be used to update payment rates for the group of psychiatric, rehabilitation, and long-term care hospitals and hospital distinct-part units excluded from PPS. The target rate-of-increase factor should

reflect the projected increase in the hospital market basket for these hospitals, corrected for forecast error. The net allowance for scientific and technological advancement and productivity should be zero, consistent with the targets established for PPS hospitals.

For fiscal year 1989, the target rate-of-increase factor for children's hospitals and distinct-part units should reflect the projected increase in the hospital market basket for PPS hospitals, corrected for forecast error. The net allowance for scientific and technological advancement and productivity should be zero.

Recommendation 6: Timely and Accurate Medicare Cost Data

Availability of reliable and timely data is a critical priority for decision making. While significant improvements have been made in Medicare cost data timeliness, the Commission is concerned about the quality of these data for use in policy development. Therefore, the Secretary should consider improvements to the data to better reflect the costs of treating Medicare beneficiaries and to ensure comparability of data over time.

Adjustments to the PPS Payment Formula

Recommendation 7: Capital Institutional Neutrality

The Secretary should provide supplemental payments to hospitals for inpatient-related capital costs incurred at other facilities. Such supplemental payments should continue until capital is incorporated into the PPS payment rate.

Recommendation 8: Indirect Teaching and Disproportionate Share Adjustments

The indirect costs of teaching and the costs of serving a disproportionate share of low-income patients should be recognized through the use of data-based adjustments to hospital PPS payments. These adjustments should be reestimated annually using the most recent cost data available. The Secretary should support further research efforts to improve measurement of the sources of hospital cost variation. Results of this research could be employed to improve the overall structure of PPS payments.

Recommendation 9: Labor Market Area Definitions

The Commission continues to believe that the current hospital labor market area definitions are seriously flawed. These definitions can be improved substantially with currently available data. Therefore, the Secretary should adopt the following definitions of hospital labor market areas:

- For urban areas, the Secretary should modify the current Metropolitan Statistical Areas (MSAs) to distinguish between central and outlying areas. The central area should be defined using urbanized areas as designated by the Census Bureau.
- For rural areas, the Secretary should distinguish between urbanized rural counties and other rural counties within each state. Urbanized rural counties should be defined as counties with a city or town having a population of 25,000 or greater.

The implementation of improved definitions should not result in any change in aggregate hospital payments. Furthermore, these definitions should not affect the assignment of hospitals to urban or rural areas for purposes of determining standardized amounts.

Recommendation 10: Evaluation of Sole Community Hospital Policies

Using the most recent data available, the Secretary should immediately initiate an evaluation of the adequacy of current Sole Community Hospital policies for protecting isolated rural hospitals. Based on this evaluation, the Secretary should develop policies to ensure that PPS payment policy does not jeopardize Medicare beneficiaries' access to inpatient hospital care in isolated rural areas.

Recommendation 11: Clarification of Sole Community Hospital Designation Criteria

Before fiscal year 1989 begins, the Secretary should issue guidelines for interpreting the criteria used by HCFA regional offices to designate Sole Community Hospitals. The guidelines should be structured to provide greater uniformity in the standards used to designate SCHs. The Secretary should also assess whether the criteria themselves

can be improved to better define sole hospital providers of care to isolated populations.

Quality of Care

Recommendation 12: Evaluation of PRO Review and Quality of Care

The Secretary should review and synthesize the findings of Peer Review Organizations over the past four years. A major, comprehensive evaluation of PROs and their impact on quality of care should follow. The evaluation should focus on issues of access to and use of services, patterns of denials, and instances of poor quality care. Issues related to expenditure control and efficient administration of PRO contract requirements should be secondary to broader quality of care evaluative goals. The assessment should evaluate and compare criteria used to make judgments about when care is appropriate. Finally, this major study should assist the Secretary in developing and implementing mechanisms for expanded PRO review of episodes of care that are patient-oriented rather than institution-oriented.

Patient Classification and Case-Mix Measurement

Recommendation 13: Improvements to Case-Mix Measurement

The Commission continues to believe that the DRG system is the best available measure of hospital case mix for the Medicare PPS. The Secretary should continue, however, to refine the DRGs to improve the equity of hospital payments and update the DRGs to account for changing technology. The Secretary should focus on generic improvements through the use of patient data currently available from the discharge abstract. The Secretary should also consider the use of temporary, technology-specific DRGs whenever assignment to existing DRGs is not appropriate.

Recommendation 14: Coding Improvements

The Secretary should formalize a more timely, systematic, and consultative approach to consider ICD-9-CM codes for new diagnoses, procedures, devices, and other treatments. When new codes are considered and created, both coding and clinical specialists should be involved. The Commission continues to support its previous recommen-

dations that the Secretary review Chapter 16 codes and coding procedures.

DRG Classification and Weighting Factors

Recommendation 15: Method of Recalibrating the DRG Weights

The DRG weights should be annually recalibrated on the basis of costs rather than charges. The Secretary should implement cost-based weights starting with the fiscal year 1989 recalibration. The Commission is concerned, however, about the current Medicare cost-finding methods for estimating costs. The limitations of the Medicare cost report data may, in some cases, produce imprecise DRG weights. Thus, the Secretary should verify the accuracy of the cost report data and implement changes as necessary.

Recommendation 16: Improvements to DRG 468

The Secretary should reassign cases from DRG 468 to existing surgical DRGs. These cases should be reassigned using secondary, rather than principal, diagnoses. Cases that can be reassigned to more than one DRG should be assigned to the DRG with the highest relative weight.

Recommendation 17: Burn Hospitals and Units

The Commission supports the intent of current legislation temporarily increasing outlier payments for burn DRGs. However, the Commission's preliminary analysis indicates that the increase in outlier payments is appropriate only for those cases treated in specialized burn centers and units. The Commission will examine this topic further and submit additional recommendations to the Congress and the Secretary of Health and Human Services as required by Omnibus Budget Reconciliation Act of 1987, Pub. L. 100-203.

Payment for Outlier Cases

Recommendation 18: Outlier Payment Policy

The Secretary should modify outlier payment policy to protect hospitals more adequately from the risk of extremely costly cases. Hospital-specific cost-to-charge ratios should replace a national cost-to-charge ratio for calculating cost outlier payments. Greater emphasis should be placed on costs rather than length of stay for determining outlier

payments. As an interim step toward emphasizing costs, the Secretary should move from day outlier precedence to paying the greater of day or cost outlier payments. Furthermore, the Secretary should adjust threshold levels so that 40 to 50 percent of outlier payments are paid as cost outliers.

The Commission urges the Secretary to increase outlier contributions to the maximum of 6 percent

of total projected payments allowed under the statute. A correction should be made in the following year's payments if the amount paid for outliers is different from the amount set aside. If necessary, the Secretary should seek statutory change for these initial improvements while continuing analysis to refine outlier payment policy. Further analysis should also include consideration of an increase above the 6 percent set-aside amount allowed under the statute.

Chapter 1

Introduction and Commission Priorities

Introduction and Commission Priorities

Between 1965 and 1983, the nation experienced unprecedented growth in health care spending. In the early 1980s this growth was particularly rapid. Faced with rising Medicare expenditures, the Congress sought a means for controlling the rate of increase in hospital costs while maintaining access for Medicare beneficiaries. In 1983, it enacted the Medicare prospective payment system (PPS) for payment of inpatient hospital services.

PPS constituted a major reform in Medicare payment policy, moving from a retrospective, cost-based payment methodology to a fixed-price payment system. Prospective payment offered hospitals incentives for increased efficiency and productivity in the delivery of health care services. The system did this by placing hospitals at risk for operating losses while allowing them to retain revenue surpluses from prospective payments.

When it enacted PPS in Pub. L. 98-21, Congress also established the Prospective Payment Assessment Commission (ProPAC) with responsibilities related to maintaining and updating the payment system. The Commission is an independent panel providing analysis and advice on PPS issues to the executive and legislative branches of the Federal government. Its 17 members, selected by the congressional Office of Technology Assessment (OTA), have expertise in health care delivery, financing, and research. Biographies of the Commission members appear in this report's appendix.

ProPAC's analysis and decision making are guided by a set of interrelated priorities. These priorities provide the underlying basis for the Commission's recommendations on updating the payment rates and improving PPS. They include:

- Maintaining beneficiary access to high-quality health care;
- Encouraging hospital productivity and long-term cost-effectiveness;
- Facilitating innovation and appropriate technological change;
- Maintaining stability for providers, consumers, and other payers; and
- Making decisions based on reliable, timely data and information.

The Commission has developed a process and guidelines for identifying and analyzing issues related to its responsibilities. Once the Commission establishes its policy agenda, ProPAC staff provides analyses that enable the Commissioners to make informed judgments about appropriate changes to PPS. Since 1983, ProPAC has examined a number of important policy issues and has made recommendations in numerous areas. In many instances, the Secretary of the Department of Health and Human Services (HHS) has made adjustments to the system or Congress has legislated necessary changes. Other adjustments will be needed, however, to respond to a health care delivery system undergoing constant change.

Chapter 1 summarizes issues that ProPAC has addressed in the early years of PPS. It describes technical improvements to the payment system as well as activities to assess how PPS has affected American health care. It also includes a summary of recent changes in health financing and public policy related to PPS. Chapter 2 contains the Commission's recommendations for additional improvements to PPS in fiscal year 1989. Chapter 3 describes issues for further analysis and consideration.

ASSESSING THE MEDICARE PROSPECTIVE PAYMENT SYSTEM

The Commission's work falls into two broad areas. The first includes activities directed toward developing recommendations for technical improvements in the PPS payment structure. By law, ProPAC is required to recommend annually to the Secretary of HHS an appropriate percentage change in Medicare payments for inpatient services delivered in PPS hospitals. This requirement includes a recommendation on the target rate-of-increase limits in cost reimbursement for hospitals and units excluded from PPS. The Commission also recommends changes in the diagnosis-related groups (DRGs) and their relative weights, along with other technical improvements to PPS.

The second area includes activities directed toward informing the Congress about how PPS has affected the American health care system. Among these activities are assessing the effect of PPS on the organization, delivery, and financing of patient care inside and outside the hospital. During 1987, the Commission reexamined its allocation of resources and began to devote more effort to examining these areas and determining how PPS affects hospitals and those who work in them, the Medicare program, and its beneficiaries.

These two areas, which have been important to the Commission during the past four years, are described below. Technical payment issues at both the hospital and patient level are addressed first. Key findings on the impacts of PPS are also summarized. In June 1988, ProPAC will submit an extensive report on this subject to Congress.

Hospital-Level Payment Issues

One of the Commission's chief concerns is whether the PPS payment levels are appropriate and offer incentives that encourage hospitals to provide high-quality, cost-effective care to Medicare beneficiaries. A major focus of ProPAC's work is updating the standardized amounts—the foundation of PPS payments. The Commission also recognizes problems in other components of the payment calculation and has devoted resources to study them. The following section describes previous updates to other PPS payments as well as improvements in hospital-level payment adjustments.

Update Factor—The Commission's mandate includes developing recommendations on an appropriate annual percentage change in the Medicare payments for inpatient hospital care, called the update factor. The Commission is required to consider a number of variables, including the quality and long-term cost-effectiveness of inpatient services provided.

Given this charge, ProPAC first developed a conceptual approach for determining an appropriate update factor. It divided the update factor into two major components: changes in the hospital market basket, and changes in all other variables related to updating payments. A major portion of the latter component is referred to as the discretionary adjustment factor (DAF). The DAF was defined to include an allowance for changes in hospital productivity, scientific and technological advances, site-of-care substitution, and real case-mix change. A similar approach has also been adopted by HHS in its proposed regulations on the annual update of PPS payments.

The Commission then turned to developing empirical bases for annually determining the update factor components. ProPAC continues to refine methods for deriving empirical findings. Such methods provide a consistent basis for public discussion and Commission judgment regarding the appropriate update for PPS payments. The Commission's judgment has provided another perspective for the Congress, which has legislated the update factor for payments beginning with fiscal year 1986. Although ProPAC's recommendation is not intended to be a ceiling, hospital payment updates have fallen between its recommendation update and the Secretary's proposed update.

The rest of this section describes ProPAC analyses that have provided supporting information for determining the update factor.

Market Basket—The hospital market basket is the component of the update factor that reflects inflation in the prices hospitals pay for goods and services, or inputs. The Commission has made numerous recommendations in this area, most notably on the treatment of wages in the market basket and correction of market basket forecast errors. Analysis of the market basket led the

Commission to conclude that it appropriately reflects the impact of inflation on hospital costs.

The Secretary has implemented several technical improvements to the market basket to reflect more accurately inflation in prices of inputs. The Commission will continue to examine other market basket issues, including those related to changes in the skill mix of hospital employees.

Discretionary Adjustment Factor—The DAF component of the update relies heavily on Commission judgment regarding appropriate additions to and subtractions from the market basket. Over the past four years, ProPAC has devoted significant resources to developing an empirical foundation for its judgment on the DAF components.

In developing an adjustment for hospital productivity, the Commission has attempted to adapt basic economic concepts. That is, productivity is the ratio of outputs per unit of resource input. Further, ProPAC has defined two levels of hospital output, or product. The discharge is the final hospital product, while individual hospital department services are intermediate products. Productivity analyses have attempted to adjust for changes in the complexity of the hospital product. In addition, Commission efforts have focused on overcoming limitations in the definition and measurement of discharge and intermediate-level productivity. This information has supported ProPAC's judgment on an appropriate productivity target for hospitals.

The Commission has also developed a method for assessing the incremental inpatient operating costs related to the use of new, cost-increasing, quality-enhancing technologies and scientific advances. Continued refinement of this approach allows the Commission to reach more precise judgments about the rate at which payments should increase to reflect advances in technology and the services furnished to Medicare patients.

When PPS was implemented, policy makers recognized that hospitals had strong incentives to substitute outpatient services for those previously furnished on an inpatient basis. In many cases, this substitution is desirable and appropriate. The Commission believes, however, that the costs for such services provided in other settings and reimbursed by Medicare should be removed from the payment base. In its first three reports to the Secretary, the

Commission recommended an adjustment in the update factor to account for site substitution.

The Commission considers changes in the characteristics of patients and treatments to develop its recommendation for updating hospital payments. In earlier deliberations, ProPAC distinguished these real case-mix changes from changes in medical record coding practices. The Commission's update factor recommendation ensures that coding changes are not built into future PPS payments. Real case-mix changes are separated into two components—changes in case complexity within DRGs and changes across DRGs. Both of these components affect resources used in patient care and are also considered in the Commission's update factor recommendation.

Adjustments to the Standardized Amounts—In 1986, the Commission received data on hospital costs for the first year of PPS. From these data, ProPAC determined that actual hospital costs for the first year of PPS were substantially lower than the projected costs used to set the standardized amounts in place at the time. The Commission considered these findings on cost differences in its deliberations on the update factor for fiscal year 1988. This information also contributed to the debate over PPS payment increases.

Medicare cost data provide valuable information for improving PPS and for assessing the effects of PPS on hospitals. Timely, reliable data are essential to determine changes in hospital costs. The Commission, therefore, proposed alternative strategies for sampling cost report data to obtain these data sooner. The Secretary has taken steps to make cost data for the third year of PPS available earlier. These more timely data have been considered in the Commission's update recommendation for fiscal year 1989.

Excluded Hospitals—Psychiatric, rehabilitation, pediatric, and long-term care facilities are excluded from PPS by statute. As with the PPS standardized amounts, the cost reimbursement limits for excluded hospitals are updated annually. The Commission recognizes that the types of patients seen and the treatment provided vary significantly between PPS and excluded hospitals. In addition, the incentives for excluded hospitals are far different from those for PPS hospitals. Therefore, ProPAC has annually recommended a different update

factor for both groups of hospitals. The Congress has passed legislation establishing the authority to determine a separate update factor for excluded hospitals.

Other Hospital-Level Payment Issues—The Congress included payment adjustments when it enacted PPS to recognize certain cost differences across hospitals. The Commission has recommended changes to the policies affecting the level and distribution of payments to hospitals and has examined PPS capital payment policy. A summary of issues addressed follows.

Disproportionate Share Adjustment—When PPS was enacted, the Congress was concerned about adjusting for the higher Medicare costs per case associated with treating a disproportionately large share of low-income patients. The Commission shared this concern and initiated efforts to determine an appropriate payment adjustment for these hospitals. ProPAC worked closely with the Congressional Budget Office (CBO) and others to provide empirical analyses for identifying low-income patients. Studies were designed to determine the relationship between treating a high number of low-income patients and Medicare costs per case. On the basis of CBO analysis, Congress ultimately enacted a disproportionate share adjustment that was consistent with ProPAC's recommendations.

Rural Hospitals—The Commission believes that some PPS policies may place rural hospitals and the beneficiaries they serve at a disadvantage. Between 1981 and the first year of PPS, costs per case increased faster for rural hospitals than for their urban counterparts. For fiscal year 1988, the Commission recommended, and Congress legislated, separate urban and rural payment amount updates.

Most of the Commission's work has focused on the problems of isolated rural hospitals. In 1987, it recommended expanding protection offered to some isolated hospitals against the financial problems associated with volume fluctuation. Congress has enacted legislation making small, isolated rural hospitals eligible for payment adjustments if they experience a significant reduction in the number of Medicare patients they serve.

Labor Market Areas—PPS payments are adjusted to reflect differences in hospital wage levels across geographic areas. ProPAC has been concerned that the definitions used for labor market areas are inadequate and thus do not accurately reflect wage variations. Based on extensive analysis, the Commission has made several recommendations to refine these definitions for both urban and rural areas. Subsequently, the Secretary and CBO conducted other studies, which verified that this area needs improvement. ProPAC continues to encourage the Secretary to make changes to definitions of the labor market areas.

Capital—In developing PPS, the Congress recognized that additional study was required to include capital payments in the new system. Congress excluded capital-related costs from PPS and continued payment for these costs on a pass-through basis. Although this exclusion was intended to be temporary, capital is still reimbursed on this basis.

ProPAC has extensively analyzed capital payment issues and has made numerous recommendations for including capital in PPS. Although initially different, the Secretary's 1987 proposal was similar to the Commission's. ProPAC also conducted a study to identify hospitals that would be potentially vulnerable to new capital payment policy. This analysis indicated the need for an exceptions process, which was also later adopted in the Secretary's proposal. Meanwhile, Congress has delayed incorporating capital into PPS until 1992.

Patient-Level Payment Issues

The DRG patient classification system describes and measures hospital case mix and serves as an important basis for per-case payment under PPS. In the broadest sense, ProPAC has examined both DRGs and alternative case-mix measurement systems for potential use in PPS. The Commission's work has also focused on improving and updating the existing DRG system to better reflect relative resource consumption and to incorporate new and changing technologies and practice patterns. Significant changes in these areas follow.

Improving the Measurement of Case Mix—In the past, ProPAC has considered three general approaches to improving case-mix measurement. These include retaining the current system and

revising it incrementally; retaining the current system, but reconstructing it using more complete data; and implementing an alternative system. In its 1986 report, the Commission recommended retaining the current DRG system and outlined several incremental improvements.

Although the Commission believes that the current system is the best alternative at present, it is still concerned about significant resource use variations within DRGs. Therefore, in 1986, ProPAC initiated a systematic evaluation of the DRGs and other studies to improve case-mix measurement. These studies produced findings to support several generic improvements to the DRGs, which have since been implemented. These are described below.

Patient Age—When the DRGs were developed, patient age, typically used in combination with the presence of a complication or comorbidity (CC), was an important factor in DRG assignment. The Commission became concerned that, for the Medicare population, age was not an appropriate determinant of resource use. After further study, ProPAC concluded that defining DRGs only on the basis of the presence of CCs is more appropriate in grouping Medicare cases for PPS payment purposes. The Secretary eliminated age as a criterion for DRG classification in 1987.

Complications and Comorbidities—The Commission has undertaken several studies to evaluate the CC variable in DRG classification. Results led ProPAC to recommend revising the current list of CCs to ensure more appropriate grouping of Medicare cases for payment under PPS. HHS currently has major research under way to examine all CCs for all DRGs. Analysis includes examining those DRGs that do not currently include CCs as a basis for classification.

Hospital-Level Effects of Changes to the DRGs—ProPAC analysis indicates that refinements that reduce the variation in resource use of cases within DRGs do not necessarily have important effects on aggregate hospital payments. The Commission continues to believe, however, that improvements at both the patient level and the hospital level are essential to provide incentives that promote equity in payments. ProPAC's hospital-level analysis has provided a model for measuring and evaluating the

aggregate effects of case-mix improvements. Furthermore, the analysis provides evidence regarding the respective roles of case-mix measurement deficiencies and practice pattern variations to explain hospital-level variation in resource use.

Recalibration of the DRG Weights—Recalibration is a method for periodically adjusting PPS payments to reflect changes in hospital technologies and practice patterns. The Commission's recalibration recommendations fall into two broad areas: the frequency of recalibration and the data to be used.

In 1986, the Commission recommended recalibrating the DRG weights annually to reflect the use of new technologies and other changes in practice patterns. Congress subsequently enacted legislation requiring annual recalibration beginning in fiscal year 1988.

ProPAC also initially recommended that the DRG weights be recalibrated using charge data alone. This recommendation was partly based on the fact that PPS cost data were not available in a timely fashion. Further, analysis indicated little difference between weights based on charges adjusted by costs and those based on charges alone. The recalibration process subsequently adopted by the Secretary was consistent with this approach. Because Medicare cost data are available much sooner, however, the Commission this year reevaluated its recommendation on data to be used in recalibration. The Commission decided to recommend implementation of weights based on charges adjusted by costs beginning with the next recalibration.

Coding Changes and Grouper Logic—In case-by-case analyses, the Commission has identified a significant degree of dissimilarity among cases within many of the DRGs. Much of this variation can be linked to inadequacies in the DRG system's assignment criteria.

Initial partitioning of the DRGs is based on ICD-9-CM codes for principal diagnosis and operating room procedure. The Commission has made several recommendations related to improving the use of these codes in DRG construction and assignment. For example, to describe changing technologies or practice patterns such as those associated

with cardiac pacemakers, the Commission recommended the use of new codes. ProPAC also recommended implementing administrative mechanisms to identify specific procedures or conditions when a new code cannot be developed in a timely manner. The Secretary shares ProPAC's concerns about issues related to coding and Grouper logic, and continues to devote resources toward needed improvements.

DRG Classifications and Relative Weights—

The Commission has made several recommendations to address problems related to individual technologies and changing medical practice patterns. It has also examined problems of certain hospitals that provide specialized care and services. ProPAC staff as well as concerned individuals and organizations have brought issues to the Commissioners' attention. Many of the problems can be corrected incrementally, leaving the basic construction, classification, and weighting scheme of the DRG system intact.

ProPAC has conducted numerous analyses that have resulted in recommendations for technical modifications to the DRGs; other analyses have failed to substantiate the need for such changes. Efforts have also been directed toward monitoring modifications to the DRGs. An important component of these ProPAC analyses is assessing how cases involving specific technologies or practice patterns are distributed across hospitals. As new data become available, ProPAC continues to monitor and update prior analyses and recommendations.

Impact of PPS

Implementation of PPS increased pressure for substantial change in the nation's health care system. ProPAC has examined the potential consequences of new Medicare payment policy on access to, as well as the quality, delivery, and financing of, inpatient services. Key findings are described below. The Commission's June 1988 report to the Congress, *Medicare Prospective Payment and the American Health Care System*, will cover these and other topics in greater detail.

Quality—Concern for the welfare of Medicare beneficiaries is paramount in virtually all the Commission's deliberations. In 1985, ProPAC systematically reviewed anecdotal evidence and perceptions

related to quality of care. The study was reassuring in that it did not support public concerns regarding significant problems related to quality of care. So far there is no evidence that quality has been compromised under PPS. The Commission and others, however, are continuing research on measuring health outcomes and assessing the effect of PPS on quality of care.

Besides the findings regarding quality of care, the perceptions study indicated that beneficiaries needed more information about PPS and rights of appeal within the system. This finding led the Commission to recommend that the Secretary and others develop and disseminate to beneficiaries and providers of care more and better-written information about PPS. In 1987, the Secretary published and made available a beneficiary information pamphlet.

Changing practice patterns have resulted in less frequent use of the inpatient facilities of the acute care hospital. Hospital incentives to decrease length of stay have contributed to this shift in the site of care. Care is being provided more frequently in outpatient centers, skilled nursing facilities (SNFs), other community facilities, and the patient's home. The care that beneficiaries receive in these alternative settings can be a primary factor in the overall quality of care during an episode of illness. For this reason, the Commission has recommended extending the focus of Peer Review Organization (PRO) activities to the entire episode of care, including post-discharge services. In addition, the Commission has recommended that PROs be required to review and monitor the quality of care for selected outpatient surgery cases.

Beneficiary Cost Sharing—The Commission's concern for the effects of PPS on beneficiaries goes beyond quality of care issues. ProPAC recommended, and the Congress enacted, changes in the formula for setting the inpatient hospital deductible to make it more consistent with the per-case orientation of PPS. Additional improvements are addressed in the catastrophic benefit package currently under congressional review.

Use, Cost, and Provision of Health Care Services—Significant changes in health care delivery have influenced the use of inpatient hospital care and total health spending. Despite

cost-containment efforts at many levels, the nation's total health care expenditures continue to comprise an increasing share of the gross national product. Substitution of outpatient services for inpatient services has contributed to varying increases in the components of health care spending, however. For several years, Medicare expenditure increases for ambulatory care have exceeded those for inpatient hospital and SNF care.

The shift in services has also led to a decline in hospital admissions since 1981, although the rate of decline has recently diminished. In addition, patient length of stay (LOS) has declined in recent years and now appears to be leveling off. Lower admission rates and shorter LOS continue to contribute to reduced hospital occupancy.

The numbers and mix of workers in the hospital industry continue to change as well. The shift in services has led to a decline in inpatient full-time equivalent (FTE) personnel, although total hospital employment increased during the first eight months of 1986. Hospitals have also changed the skill mix of personnel over time. Commission analysis of various categories of medical personnel indicates that, for most occupational categories studied, hospitals have shifted to higher skilled workers. In the nursing category, for example, RNs made up almost 50 percent of nursing personnel in 1980. By 1985, RNs had grown to 63 percent of the nursing work force. The percentage of LPNs, on the other hand, decreased in 1984 and 1985.

Distributional Effects of PPS on Hospitals— ProPAC believes that the distribution of payments to hospitals influences quality of care as much as the overall level of payment. Therefore, the Commission has devoted significant resources to examining this issue.

Past efforts include studying how the transition to national rates has affected the distribution of payments across hospitals. Results from its first-year modeling effort led ProPAC to propose a one-year delay in the transition to national rates because of possible consequences for hospitals. The Congress subsequently adopted such a delay which, when implemented, resulted in payment savings to the Federal government.

The Commission has also studied and reported on distributional differences in hospital case-mix index change and outlier cases and payments. Finally, like many others, ProPAC examined hospital financial condition, including PPS operating margins. ProPAC analysis differed, however, in that the Commission focused on the distribution rather than on the overall level of PPS margins. Further, ProPAC compared PPS margins with total and patient margins. Total margins include revenues and expenses from all sources. Patient margins exclude nonpatient sources of revenue. The information was useful in the debate over financial performance of hospitals under PPS.

This report reflects the Commission's analysis of how changes in the payment components of PPS might contribute to the objectives of the system. Despite efforts to encourage cost-effective, quality-enhancing care, Medicare inpatient costs per case and total expenditures both continue to rise at unexpected rates. While the Commission believes that PPS needs further improvement, it is also concerned about achieving the goals of cost containment and improved hospital productivity. ProPAC will examine this broader question of the overall impact of PPS in its June 1988 report to the Congress.

RECENT CHANGES IN HEALTH FINANCING AND PUBLIC POLICY

During the past year, the Federal health policy debate has been dominated by pressure to reduce the large national budget deficit. The Omnibus Budget Reconciliation Act of 1987 (OBRA 1987) contained numerous changes to the Medicare program. Some of these changes have been discussed previously, and others are highlighted below.

Concern about significant cost differences and cost changes among hospitals led the Congress to enact separate payment updates for urban and rural hospitals as well as for hospitals in large metropolitan areas. In addition, Congress instituted a regional payment adjustment under PPS. Hospitals will be paid the greater of full national rates or a blend of 85 percent national and 15 percent regional rates.

The Congress continued to defer the implementation of a new capital payment policy by prohibiting

the Secretary from incorporating capital into PPS until fiscal year 1992. Congress reduced the capital cost pass-through, however, by discounting payments to hospitals by 12 percent for most of 1988 and 15 percent in fiscal year 1989.

OBRA 1987 also contained modifications to the disproportionate share and indirect teaching payment adjustments. Starting in fiscal year 1989, additional payments for certain hospitals serving large numbers of low-income patients are no longer limited to 15 percent. The indirect teaching allowance was reduced from 8.1 percent to 7.7 percent. ProPAC will study the disproportionate share and indirect teaching adjustments in the coming year to determine whether they appropriately account for hospital cost differences related to teaching and service to the poor. (For further discussion of this issue, see Chapter 3.)

Congress devoted significant effort to expanding the Medicare program to include catastrophic illness coverage in 1987. It has not passed legislation on this issue, however. Catastrophic coverage will likely dominate the Federal health policy debate during the second session of the Congress. ProPAC will continue to monitor congressional action on this and other major health financing policies.

In the four years since PPS implementation, numerous improvements have been made in payment policies and case-mix measurement. Additional improvements are necessary to refine the system as well as to keep pace with medical advances and changes in the organization and delivery of health care services.

Chapter 2

Recommendations

Chapter 2

Recommendations

The Commission's recommendations for fiscal year 1989 are the result of an ongoing process of agenda setting, information collection, analysis, and deliberation. ProPAC selects issues for consideration to conform with its statutory mission and to contribute to an open policy debate on matters of substantial importance to beneficiaries, hospitals, and the Medicare program.

The recommendations reflect the collective judgment of the 17 Commissioners. In certain cases, however, individual Commissioners did not agree with the majority opinion.

Some recommendations, such as those pertaining to the annual update of payment rates, will be repeated in similar format every year. In other instances, the Commission has reconsidered and amplified or modified past recommendations on the basis of new evidence. In addition, certain issues were examined for which no recommendations were developed. Because these issues receive little or no attention elsewhere in the report, they are briefly discussed later in this chapter.

Concern for reducing the Federal deficit and attaining a balanced budget continued to dominate public policy debates while these recommendations were being developed. Although ProPAC did not explicitly take budgetary concerns into account, the recommendations were developed in recognition of a constrained fiscal environment. Furthermore, the Commission believes that budgetary pressures intensify the need to address distributional and technical payment issues that may bear on the quality of care furnished to Medicare beneficiaries.

The following discussion presents an overview of the Commission's 18 recommendations for fiscal year 1989. The full text and discussion of each recommendation follow the overview. Background

information, statistical analyses, and alternative options considered are in the Technical Appendixes. The issue areas addressed by the Commission this year are:

- Updating PPS payments,
- Adjustments to the PPS payment formula,
- Quality of care,
- Patient classification and case-mix measurement,
- DRG classification and weighting factors, and
- Payment for outlier cases.

OVERVIEW OF THE COMMISSION'S RECOMMENDATIONS FOR FISCAL YEAR 1989

Updating PPS Payments

In making recommendations on the update factor, the Commission is required by the PPS statute to:

. . . take into account changes in the hospital market basket . . . , hospital productivity, technological and scientific advances, the quality of care provided in hospitals (including the quality and skill level of professional nursing required to maintain quality care), and long-term cost-effectiveness in the provision of inpatient services.

The Commission must report its recommendations on the update factor to the Secretary of Health and Human Services no later than March 1 of each year, and

. . . taking into consideration the recommendations of the Commission, the Secretary shall recommend . . . an appropriate change factor . . . which will take into account amounts necessary for the efficient and effective delivery of medically appropriate and necessary care of high quality.

Since fiscal year 1986, the Congress has set the update factor through legislation. Both ProPAC and HHS are thus advisers to the Congress on aggregate payment increases under PPS. Nevertheless, the Secretary has an opportunity to evaluate ProPAC's recommendations before the HHS proposed update is developed.

Recommendation 1 reflects the Commission's overall judgment of the appropriate change in the level of PPS prices for fiscal year 1989 based on currently available data. The Commission recommends a 3.8 increase in PPS prices for urban hospitals and 4.6 percent for rural hospitals. Several of the components of the update factor may change as new data are received before the final rules for fiscal year 1989 are published. The Commission will publicize any revisions to its recommendation on the update factor during the rule-making period.

Recommendation 2 modifies an update factor component introduced in 1987. At that time, the Commission recommended a 5.4 percent average reduction in the standardized amounts, to be phased in over a three-year period. The recommended reduction was based on an examination of first-year PPS cost data, which showed that actual costs were substantially below the projected costs on which first-year payments were based.

The Commission lowered the annual average reduction for fiscal year 1989 from 1.8 percent to 1.1 percent. The updates hospitals received in fiscal year 1988 suggest that more than one-third of the recommended 5.4 percent average reduction to the standardized amounts was taken away. Therefore, smaller reductions for the next two fiscal years are appropriate.

Recommendation 3 consists of a combined allowance for scientific and technological advancement and productivity improvement goals and for changes in the site of services delivered to Medi-

care hospital inpatients. The Commission decided that the net effect of these three factors on the update should be zero.

Recommendation 4 is an allowance for changes in patient mix and complexity that are not otherwise provided for in the PPS payment structure. It also includes a recommended adjustment to offset expected change in the average DRG weight. The Commission has preliminarily estimated that these factors nearly offset one another. The net effect on the update is -0.1 percent. These estimates may be revised when more recent data become available.

Recommendation 5 satisfies the Commission's statutory obligation to recommend an update factor for hospitals and distinct-part units of hospitals excluded from PPS. These hospitals and units continue to be paid on a reasonable cost basis, subject to limits on increases in reimbursement per case. The Commission recommends a 5.1 percent update in the limit for children's hospitals and units, and a 5.2 percent update in the limit for psychiatric, rehabilitation, and long-term care hospitals and units.

Recommendation 6 underscores the Commission's conviction that Medicare cost report data should continue to be available for the update recommendation and other purposes. The Commission is impressed with the improved timeliness of the data since last year. Nevertheless, further improvements in timeliness should be sought, and measures should be taken to enhance and verify the accuracy of the data.

Adjustments to the PPS Payment Formula

The Commission continues to be concerned with technical improvements to the calculation of PPS payments. Such improvements will distribute payments more equitably among hospitals and lower the risk of access and quality problems for beneficiaries. Recommendations 7 through 11 address several potential adjustments to the methods of calculating PPS payments.

In its 1986 and 1987 reports to the Secretary, the Commission presented detailed recommendations related to paying for capital under PPS. The Congress has decided to continue to defer prospective payment for capital and has instituted reductions in capital costs reimbursed on a pass-through

basis. The Commission is concerned about the adverse incentives that this dual payment system may create over time. In Recommendation 7, the Commission advises making supplemental payments to hospitals for inpatient-related capital costs incurred at other facilities. This adjustment is intended to reduce hospitals' incentives to develop the capacity to provide all services in-house.

The indirect teaching and disproportionate share adjustments were designed to compensate hospitals for costs that are not otherwise recognized in PPS payments. In Recommendation 8, ProPAC expresses its belief that these adjustments should regularly be assessed with current data to monitor the relationship between teaching and service to the poor and Medicare costs.

In its 1985, 1986, and 1987 reports to the Secretary, the Commission recommended improving the way that hospital labor market areas are defined under PPS. These definitions substantially affect the distribution of hospital payments because they are used to apply the area wage index adjustment to PPS prices for every hospital. The Commission remains convinced that the current definitions are seriously flawed and can be substantially improved with existing data. Because the Secretary has not yet modified these definitions, ProPAC reiterates its proposed improvements in Recommendation 9.

The welfare of beneficiaries who rely on small, isolated rural hospitals for Medicare services continues to concern the Commission. In Recommendation 10, ProPAC proposes assessing whether Sole Community Hospital (SCH) policies adequately protect beneficiary welfare in isolated rural areas. In Recommendation 11, the Commission also advises making the criteria used to designate SCHs more specific and uniform, and proposes assessing whether the criteria themselves can be improved.

Quality of Care

Concern for beneficiary welfare enters into virtually all the Commission's deliberations and resultant recommendations. In addition, many of ProPAC's resources are expended on assessing the consequences of PPS for beneficiaries, such as

researching the effects of PPS on quality and beneficiary financial impact.

In Recommendation 12 and its discussion, the Commission reiterates points made in previous reports. Once again, it urges the Secretary to initiate a comprehensive evaluation of PRO quality of care review activities. Information from such an evaluation would be extremely helpful in assessing the quality of care Medicare beneficiaries receive under PPS and in identifying potential problem areas for further investigation.

Patient Classification and Case-Mix Measurement

The Commission continues to believe that DRGs are the most appropriate available measure of hospital case mix for PPS. In Recommendation 13, ProPAC restates its conclusion that available data can be used to refine and improve the DRG system. In addition, temporary, technology-specific DRGs should be used when existing DRGs do not adequately reflect changing medical technology.

In Recommendation 14, ProPAC stresses again the necessity and feasibility of improving the International Classification of Disease (ICD-9-CM) coding system and its use in DRG assignment. In particular, the Commission believes that a more structured and consultative process involving advice from clinical specialists should be used in adapting ICD-9-CM codes to new diagnoses and technologies.

DRG Classification and Weighting Factors

The PPS statute requires the Commission to:

. . . consult with and make recommendations to the Secretary with respect to the need for adjustments [in classification and weighting factors] . . . based on its evaluation of scientific evidence with respect to new practices, including the use of new technologies and treatment modalities.

These adjustments refer to the system for:

. . . classification of inpatient hospital discharges by diagnosis-related groups and a methodology

for classifying specific hospital discharges within these groups.

They also relate to the assignment of:

. . . an appropriate weighting factor [to each diagnosis-related group] which reflects the relative hospital resources used with respect to discharges classified within that group compared to discharges classified within other groups.

Recommendations 15 through 17 provide advice to improve the ability of the DRGs to reflect relative resource use of hospitalized Medicare beneficiaries. The Commission believes that the DRG weights should be based on costs, but it questions the accuracy of DRG-level estimates derived from Medicare billing and cost report data. In Recommendation 15, the Commission advises the Secretary to implement cost-based weights in fiscal year 1989. At the same time, the Secretary should take steps to verify and improve the accuracy of the cost report data and methods of adjusting charges to estimate costs.

Recommendation 16 proposes a change in the principles used to assign cases to DRG 468, which contains all cases with surgical procedures unrelated to the principal diagnosis. The Commission believes that most cases should be reassigned to existing DRGs on the basis of secondary diagnosis.

Recommendation 17 is concerned with burn DRGs, in which the sickest cases tend to be concentrated in burn hospitals and units. ProPAC is aware that the Congress addressed this problem in recent legislation by increasing outlier payments for the burn DRGs. The Commission will examine this issue further and will report its recommendations to the Congress and to the Secretary as required by OBRA 1987.

Payment for Outlier Cases

In Recommendation 18, the Commission states its belief that outlier payment policy is inadequate and ought to be substantially reformed. ProPAC specifically recommends movement to hospital-specific cost-to-charge ratios for calculation of cost outlier payments. The Commission also believes that greater emphasis should be placed on costs rather than on length of stay, as is now the case. As

an interim measure, the Commission recommends a modest shift toward greater emphasis on costs in the way outlier payments are calculated in fiscal year 1989.

In addition, ProPAC believes that consideration should be given to devoting a higher proportion of total PPS payments to outliers than current law allows, once a more optimal payment strategy is developed. The Commission recommends paying the maximum 6 percent allowed under the statute in fiscal year 1989, and adjusting payment in the future if the amount paid for outliers differs from the amount set aside.

The Commission realizes that the Secretary is contemplating a reform of outlier payment policy, and that such reform may require legislation. Needed improvements in this area must be supported by thorough analysis. The Secretary should proceed with this analysis as quickly as possible so that improvements are not unnecessarily delayed. In this effort, ProPAC will confer with and assist the Secretary in any way possible.

OTHER ISSUES CONSIDERED BY THE COMMISSION

The Commission addressed several issues that did not lead to recommendations. These were related to new and changing technologies and practice patterns, specialty centers and units, mechanical ventilation, multiple major joint replacements, thrombolytic therapy, adjustments to the labor and nonlabor portions of the standardized amounts, Acquired Immune Deficiency Syndrome (AIDS), and hospital-specific mortality statistics.

New and Changing Technologies and Practice Patterns

In previous reports, the Commission recommended making adjustments in DRG assignment or payment for cases involving cardiac pacemakers, penile prostheses, implantable defibrillators, cochlear implants, and magnetic resonance imaging. The Secretary has made some adjustments related to implantable defibrillators, but no others.

ProPAC remains convinced that payment considerations should not lead hospitals to deny patients access to quality-enhancing technologies. The Commission will therefore continue to monitor the

use of these technologies and to recommend payment adjustments where appropriate.

Specialty Centers and Units

The Commission conducted several analyses comparing the average costs that specialty centers and units incur with the PPS payments they receive. Designed to examine the relationship between costs and payments for a select group of DRGs, the analyses included the following types of specialty centers and units: burn, cancer, cystic fibrosis, dermatology, epilepsy, hemophilia, spinal cord injury, and trauma.

The Commission supports the intent of the provision in OBRA 1987 that temporarily increases outlier payments for burn DRGs. To develop a more adequate long-term solution, ProPAC will continue its analysis of burn centers and units (Recommendation 17). In addition, the Commission will continue its analyses of cancer, epilepsy, dermatology, hemophilia, and trauma centers and units.

In general, the Commission believes that improvements in outlier payment policy will ameliorate some of the financial difficulties facing certain specialty centers. For instance, the Commission is concerned about the high percentage of outlier cases treated at spinal cord injury centers. Although there were few Medicare discharges from these centers, costs were substantially higher than payments. This difference may result from the higher percentage of outlier cases treated at such centers.

In addition, the Commission is concerned about the use of Medicare DRGs by other payers whose patient populations may differ from Medicare's. ProPAC is particularly concerned that PPS may not adequately compensate hospitals for treating patients with cystic fibrosis. However, payment for other patients in the same DRGs as those with cystic fibrosis appears appropriate. While relatively few Medicare beneficiaries have cystic fibrosis, people with this disease may constitute a larger percentage of other payers' patient populations. It may thus be inappropriate for other payers to use Medicare DRGs, as currently constructed, for payment purposes. The Commission therefore hopes that other payers will carefully evaluate the use of Medicare DRGs for their beneficiaries.

The Commission is also concerned about the adequacy of payment for dermatology DRGs. ProPAC's preliminary findings indicate that, on average, payments were substantially less than costs for several of the DRGs and subgroups within the DRGs examined. The difference was greater for hospitals with specialized dermatology departments compared with other PPS hospitals. The analysis also indicates that in some DRGs part of the difference results from payments that were less than costs for both inlier and outlier cases. However, the Commission was unable to determine exactly what caused this difference. Therefore, ProPAC will continue studying this issue in the coming year. The analysis will assess the adequacy of codes and the current classification of dermatology cases. In addition, the Commission will examine the effect of potential improvements in outlier payment policy.

Finally, the Commission questions the appropriateness of PPS payment for patients with hemophilia. The analyses indicate that, for these patients, some DRGs' costs exceeded payments. Part of the difference between costs and payments may result from the clotting factor concentrate required by these patients. The Commission will continue analysis of this issue in the upcoming year. (For more information on these analyses refer to Technical Appendix B.)

Mechanical Ventilation

In its April 1987 report, the Commission recommended a review of ICD-9-CM coding rules to better identify and classify patients with respiratory failure, many of whom require mechanical ventilation. Beginning with fiscal year 1988, the Health Care Financing Administration (HCFA) introduced a new diagnosis code (518.81) for the classification of respiratory failure. In addition, HCFA recognized the higher costs of care furnished patients requiring mechanical ventilation by creating DRGs 474 and 475. Patients can be assigned to these DRGs only if they have a principal diagnosis in Major Diagnostic Category (MDC) 4 and also receive a tracheostomy or require both endotracheal intubation and mechanical ventilation.

The new DRGs relieve the significant previous payment inequities for most cases in MDC 4, although problems remain for some surgical patients in MDC 4 and for cases in other MDCs. The

Commission is concerned, however, with the decision to use procedure codes rather than diagnostic codes to categorize patients with respiratory failure. ProPAC will continue to monitor the experience with the new DRG and assess the appropriateness of the classification and payment amounts.

Multiple Major Joint Replacements

At the beginning of PPS, all patients undergoing one or more major joint replacement or limb reattachment procedures were assigned to DRG 209. In response to concerns that the single DRG did not recognize the significantly higher costs of patients undergoing multiple joint procedures, HCFA created DRG 471 (Bilateral or Multiple Major Joint Procedures) in fiscal year 1986. Cases having certain combinations of major lower joint replacement procedures performed within a single hospitalization are classified in this new DRG. The payment weight for cases in DRG 471 is about 50 percent higher than the weight for DRG 209.

The Commission has examined the experience to date with DRGs 209 and 471 and has concluded that the new DRG results in more appropriate clinical classification and payment amounts.

Thrombolytic Therapy

Thrombolytic therapy—using tissue plasminogen activator (TPA), streptokinase, and other thrombolytic agents—is indicated for certain patients with acute myocardial infarction (MI). While TPA is considerably more costly than other thrombolytic agents, clinical data have not fully identified the short- and long-term relative benefits and risks of the different agents. Moreover, there is a great deal of uncertainty about the effect of alternative agents on the use of other hospital resources, such as cardiac catheterization.

The Commission considered a number of payment options to reflect the increased costs of thrombolytic therapy. Among them are: paying for the costs of agents on a pass-through basis, creating a special additional payment for the care of patients receiving thrombolytic therapy, and creating one or more new temporary DRGs.

ProPAC decided to include the costs of thrombolytic therapy in the science and technology component of the discretionary adjustment factor (Rec-

ommendation 3). The Commission assumes that thrombolytics will diffuse evenly through hospital groups, as myocardial infarction is common to many demographically varied patient groups. Ultimately, recalibration will result in more appropriate DRG relative weights as the technology diffuses.

Adjustment of the Standardized Amounts for Expensive Device DRGs

In its April 1986 report, the Commission recommended adjusting the portions of the standardized amounts attributed to labor and nonlabor costs for certain DRGs that frequently involve the use of expensive devices. This recommendation was based on ProPAC analysis showing that, for these DRGs, payments relative to costs are greater for hospitals in high-wage areas than for those in low-wage areas.

ProPAC has examined the findings from research funded by HCFA on this subject. The Commission has concluded that payment problems for most DRGs involving expensive medical devices are not as substantial as it thought in early 1986. Therefore, the Commission no longer recommends an adjustment.

Acquired Immune Deficiency Syndrome

The Commission considered a number of topics related to patients with AIDS. Currently, only a small number of AIDS patients are covered by Medicare. The number may increase due to advances in therapy or changes in Medicare disability or entitlement rules. Information about inpatient hospital costs and DRG payments for Medicare AIDS patients is sparse, but recent improvements in ICD-9-CM coding should soon improve this situation.

The Commission simulated DRG assignment and examined average costs for AIDS patients. The analysis suggested that current DRG assignment and payment rules may not be appropriate for AIDS cases. The Commission will monitor changes in Medicare eligibility of AIDS patients and advances in treatment that may affect the number of Medicare-eligible patients. ProPAC will also examine the appropriateness of DRG assignment and payment as additional information becomes available.

Preliminary analysis indicates that the presence of AIDS patients has altered routine hospital infection control procedures in ways that increase the costs of caring for all patients in hospitals. The Commission decided to include an estimate of the Medicare share of such costs in the science and technology portion of the discretionary adjustment factor (Recommendation 3).

Hospital-Specific Mortality Statistics

In December 1987, HCFA released hospital-specific mortality data. Before doing so, HCFA asked ProPAC to comment. The Commission responded by letter and also sponsored additional research on this topic.

The Commission supports the effort to provide more information on health outcomes through the release of hospital-specific mortality information. However, the Commission encourages the Secretary to increase efforts to educate providers, beneficiaries, and others concerning appropriate use of the information. ProPAC anticipates that the Secretary will continue to refine and improve the methods for calculating hospital-specific mortality statistics and will examine and develop other measures for evaluating health outcomes.

The Commission believes that mortality statistics must be interpreted carefully and should serve as a screen to indicate whether additional quality review should be undertaken. One of the major benefits of such data is that poor mortality experience may encourage some hospitals to examine their procedures carefully to discover whether they have overlooked ways of improving quality.

RECOMMENDATIONS FOR FISCAL YEAR 1989

Updating PPS Payments

Recommendation 1: Amount of the Update Factor for PPS Hospitals

For fiscal year 1989, the standardized amounts should be updated by the following factors:

- An average 1.1 percent reduction to reflect first-year PPS cost information. This

reduction entails separate adjustments for urban and rural hospitals of 1.2 and 0.4 percent, respectively;

- The projected increase in the hospital market basket (currently estimated to be 5.1 percent);
- A discretionary adjustment factor of 1.4 percentage points composed of the following:
 - A positive allowance for scientific and technological advancement, offset by an equal negative allowance for productivity improvement, with no adjustment for site-of-care substitution; and
 - A positive allowance for real case-mix change (currently estimated to be 1.4 percent).

In addition, the DRG weights should be adjusted to remove any increase in the average DRG weight occurring during fiscal year 1988 (currently estimated to be 1.5 percent).

This recommendation reflects the Commission's judgment about the appropriate increase in the level of PPS prices for fiscal year 1989. It assumes that the Commission's other concerns regarding the payment formula and the DRG weighting factors are also addressed in the fiscal year 1989 payment rates.

The Commission's recommendation would result in an estimated 3.9 percent increase in the average level of PPS prices for fiscal year 1989. This represents an estimated increase of 3.8 percent for urban hospitals and 4.6 percent for rural hospitals. The recommendation includes a separate adjustment for urban and rural hospitals to account for different cost experiences reflected by the first-year PPS cost data. The table below summarizes the components of the Commission's update factor recommendation.

The numerical amount of the Commission's update factor recommendation is likely to be modified as more current market basket forecasts and

additional information regarding changes in hospital case mix become available. In particular, the Commission is concerned that current national hospital wage data and forecasts do not yet reflect a recent trend in relatively high wage increases for nurses.

Current law requires that the fiscal year 1989 PPS prices increase by the market basket minus 2.0 percent for hospitals in urban areas with a population of 1 million or more, market basket minus 2.5 percent for other urban hospitals, and market basket minus 1.5 percent for rural hospitals. These updates average to about 3.0 percent based on the current market basket forecast of 5.1 percent. Adoption of the Commission's update recommendation would thus require legislative action.

The rationale for the Commission's proposed update factor is presented in Recommendations 2 through 4 and accompanying discussions. In addition, Technical Appendix A contains background information and analysis on issues related to the update of PPS payments.

The Commission's recommended 3.9 percent update factor will lead to a larger increase in the average payment per case between fiscal years 1988 and 1989. The update factor is applied to the standardized amounts in place at the end of fiscal year 1988. Because these amounts do not take effect until April 1988—halfway through the Federal fiscal year—the average fiscal year 1988 payment will be lower than end-of-the-year rates. The Commission's recommendation assumes that the

Estimated Increase in PPS Prices For Fiscal Year 1989 Under Commission Recommendations^a

Adjustment to level of standardized amounts	
Urban	-1.2%
Rural	-0.4
Average adjustment to standardized amounts	-1.1
 FY89 Update Factor	
FY89 market basket forecast	5.1
Correction for FY88 forecast error	0.0
 Components of discretionary adjustment factor	
Scientific and technological advancement	0.5 ^b
Productivity	-0.5 ^b
Site substitution	0.0 ^b
Real case-mix change in FY88	1.4
DRG case-mix index	0.9
Within DRG patient complexity	0.5
Total discretionary adjustment factor	1.4
 Estimated total change in case-mix index for FY88 (DRG weights adjusted after recalibration)	-1.5
 Subtotal: Update and case-mix adjustment	5.0
 Total change in PPS prices	
Urban	3.8
Rural	4.6
Average total change in PPS prices	3.9

^a Market basket and case-mix change estimates are likely to be modified as more recent data and forecasts become available.

^b In the Commission's judgment, the scientific and technological advancement, productivity, and site substitution components of the DAF should sum to zero. The individual estimates here represent only one point in a reasonable range for each component.

Congress intended that the end-of-year rates should be used as the base for applying the update factor.

In its deliberations, the Commission reviewed sample Medicare cost report data for the first three years of PPS. These preliminary data show increases in Medicare operating cost per case of about 10 percent annually during the second and third years of PPS. The increase is roughly 6 percentage points higher than inflation in the hospital market basket. American Hospital Association data suggest that this rate of increase has continued. This trend is partly related to the substantial decline in Medicare admissions during the early years of PPS. But market basket inflation and volume decline do not explain the cost increase entirely.

Revenue increases matched the 10 percent figure in the second year of PPS, but fell to about 3 percent in the third year. Consequently, the overall PPS operating margin fell from about 14 percent during the first two years of PPS to about 8 percent in the third year. Margins have probably continued to decline since then. Although this information was not used to develop a specific component of the update factor, it provided a context for the Commission's deliberations on the appropriate level of PPS payments. Trends in hospital costs, revenues, and operating margins will be examined in ProPAC's June 1988 report to the Congress, *Medicare Prospective Payment and the American Health Care System*.

Recommendation 2: Adjustment to the Level of the Standardized Amounts

The update factor for fiscal years 1989 and 1990 should include an adjustment to lower the standardized amounts an average of 1.1 percent each year. The urban standardized amount should be reduced by 1.2 percent, and the rural amount by 0.4 percent. The adjustments are based on the Commission's judgment of how information on average Medicare costs per case from the first year of PPS should be incorporated into the update factor.

This recommendation reflects a judgment made by the Commission in 1987 that the update factor should include a reduction to the standardized amounts. At that time, ProPAC also recommended

phasing in the reduction over a three-year period, beginning in fiscal year 1988. The Commission continues to believe the reduction is appropriate. Due to recent congressional action, however, this year's recommendation modifies the amount of the adjustment for the remaining two years of the phase-in period.

The Commission's original recommendation stemmed from a review of data from the first year of PPS. ProPAC recalculated the standardized amounts by replacing updated 1981 costs per case with first-year PPS costs per case. The newly recalculated amounts were, on average, 12.3 percent lower: 13.0 percent for urban hospitals and 7.6 percent for rural hospitals.

In developing its 1987 recommendation for a negative adjustment to the standardized amounts, the Commission considered several factors. First, part of the differential represents the costs of preadmission or post-discharge services that formerly were provided during the inpatient stay but now are delivered at other sites. Inasmuch as the costs of these services are covered elsewhere in the Medicare program, ProPAC thinks that this part of the differential should be removed from the payment rates rather than shared with the hospital industry. Moreover, errors in projecting costs and changes in hospital accounting practices may account for part of the differential.

The treatment of productivity gains was the second factor considered by the Commission. As with its previous update recommendations, ProPAC maintained that the portion of the differential attributed to productivity gains should be shared between the hospital industry and the Medicare program. Finally, the Commission considered the extent to which relatively low update factors in fiscal years 1986 and 1987 already accounted for part of Medicare's share of the cost differential. After considering these factors, the Commission recommended that 5.4 percent of the 12 percent cost differential be removed over a three-year period.

The Commission's April 1987 recommendation advised that the 5.4 percent average reduction be applied in three 1.8 percent annual increments in fiscal years 1988 through 1990. Although this year's recommendation upholds the original

reduction, it revises the level of the adjustment for fiscal years 1989 and 1990 by taking into account the update factor hospitals received for fiscal year 1988.

ProPAC believes that in legislating the updates for fiscal year 1988, the Congress implicitly adjusted for more than one-third of the Commission's recommended reduction. That Congress set the update factor substantially below the market basket partly reflects its response to first-year PPS cost data. This year's modification of the balance of the adjustment simply incorporates another year of relatively low updates.

This modification is computed as follows. The average 1.4 percent difference between the Commission's recommended total update factor for fiscal year 1988 (2.3 percent) and the approximate average update hospitals actually will have received (0.9 percent) is applied to the balance of the Commission's adjustment. Thus, the remaining average adjustment for fiscal years 1989 and 1990 is 2.2 percent: the 3.6 percent the Commission anticipated in its original recommendation less 1.4 percent. The 2.2 percent figure averages a remaining adjustment of 2.4 percent for urban hospitals and 0.8 percent for rural hospitals. The Commission believes these amounts should be phased in over two years. Thus, the recommended average reduction for fiscal year 1989 is 1.1 percent: 1.2 percent for urban hospitals and 0.4 percent for rural hospitals.

The disparate effects that recommendations like this have across hospitals continue to concern the Commission. An across-the-board adjustment may have a detrimental effect on some hospitals, while others could absorb a larger reduction. Distributional concerns have become even more important as operating margins are falling for all hospitals. The Commission will continue to recommend improvements in the PPS payment formula and examine other factors that might cause financial difficulties for particular types of hospitals.

Recommendation 3: Allowance for Scientific and Technological Advancement and Productivity Improvement Goals, and Site-of-Care Substitution

For fiscal year 1989, the net allowance for scientific and technological advancement, productivity improvement, and site-of-care substitution in the discretionary adjustment factor should be zero.

The discretionary adjustment factor is the quantitative expression of the Commission's judgment regarding the rate at which the Medicare standardized amounts should increase or decrease beyond inflation in the hospital market basket. It incorporates particular considerations outlined in the statute establishing PPS. This adjustment also takes into consideration other factors that ProPAC determines are important. Together with the market basket inflation factor, the correction for market basket forecast error, and the adjustment to the standardized amounts, the DAF updates the payment rates from fiscal year 1988 to fiscal year 1989.

In constructing the DAF, the Commission considered four specific factors: (1) scientific and technological advancement, (2) hospital productivity improvement, (3) site-of-care substitution, and (4) real case-mix change. Each factor became a component in the Commission's overall DAF judgment.

The Commission did not attempt to quantify each component precisely. The data led the Commission to conclude that the reasonable ranges of the positive scientific and technological advancement adjustment and the negative productivity improvement adjustment are roughly equal. ProPAC set these adjustments at 0.5 percent, recognizing that other levels could also be supported. The Commission further decided that the evidence supporting the negative site substitution allowance had diminished substantially.

Based on these considerations, the Commission arrived at a judgment that the net of the first three components should be zero. ProPAC concluded that any additional expenditures for quality-enhancing, cost-increasing technologies and practice pattern changes should be balanced by

reductions in resource use associated with productivity gains and shifts in the site of care to non-inpatient settings.

When the recommended increase for real case-mix change is added into the DAF, the total fiscal year 1989 DAF recommendation represents a 1.4 percent increase to the standardized amounts. Consistent with its treatment of quality and long-term cost-effectiveness in previous recommendations, the Commission considered these factors when it set the level of the DAF and examined each of the DAF components.

The individual adjustments for scientific and technological advancement, hospital productivity, and site-of-care substitution are discussed below. The adjustment for real case-mix change is addressed in Recommendation 4.

Scientific and Technological Advancement— The scientific and technological advancement allowance is a future-oriented policy target. It provides additional funds for the hospitals to improve services by adopting quality-enhancing, cost-increasing health care advances.

As stated in previous reports, the Commission believes that advances resulting in greater hospital efficiency do not require a special allowance since they should lower hospital costs. The effects of cost-decreasing technologies are considered implicitly in the productivity target.

The policy target must ultimately be based on judgment since it is impossible to enumerate all the technologies that meet this definition and to define their costs precisely. In order to develop a more informed judgment, however, the Commission examines a representative set of important new technologies and scientific developments.

Based on this examination, the Commission estimates that the standardized amounts would need to be increased by 0.3 percent. This estimate includes the effects of substituting new for existing technologies. The Commission's recommendation, however, is for a 0.5 percent increase to include technologies and changes in practice patterns not considered in its study. In the Commission's judgment, this amount represents only one point in a reasonable range for this component.

The Commission's recommendation presumes that, during fiscal year 1989, hospitals will be able to finance part of their expenditures for new technologies from productivity gains. It further presumes that Medicare capital payments will be sufficient to accommodate capital expenses associated with the implementation of cost-effective new technologies and treatments. Finally, the allowance for real case-mix change finances part of the expense associated with cost-increasing, patient-related practice pattern changes.

Hospital Productivity—The productivity allowance in the DAF is a future-oriented target. The Commission believes it is appropriate to expect hospitals to achieve modest productivity gains during the coming year.

The Commission adopted the position that it is both desirable and appropriate to translate productivity gains into price reductions. Such price reductions should be shared by the Medicare program, the Medicare beneficiaries, and the hospital industry. The Commission also determined that the Medicare program should not subsidize decreases in productivity.

The Commission's recommendation includes a minus 0.5 percent productivity allowance in the fiscal 1989 update factor for PPS hospitals. This allowance is associated with a target productivity gain of 1.0 percent, since the Commission's approach is to share the productivity gains roughly equally with the hospital industry.

Site-of-Care Substitution—This DAF allowance reflects the decrease in average inpatient costs per case associated with reductions in inpatient resources used to care for patients admitted to the hospital. Resource reductions result from the provision of non-inpatient services to patients who formerly received such services during the inpatient stay. The Commission believes that the Medicare program and the Medicare beneficiary may be overpaying for these services since the cost base used to calculate DRG payment rates includes the costs of services that are now being provided in other settings.

The allowance is not meant to reflect how the diversion of entire admissions to other settings affects average Medicare costs per case. The

impact of this type of shift is considered under the real case-mix change adjustment.

The Commission recommends no offset to the standardized amounts to accommodate site-of-care substitution in the fiscal year 1989 update factor. The lack of an adjustment reflects the Commission's belief that the potential for site-of-care substitution has diminished substantially over time.

Given the increases in both case-mix adjusted length of stay and intensity, the Commission believes that the potential for a further site substitution will largely disappear by fiscal year 1989 unless technology or the Medicare benefit structure undergo a major change. For example, if nursing home supply and benefits expand significantly, patients may be discharged earlier to these settings. It is difficult, however, to project the likelihood of these changes in fiscal year 1989. If new evidence indicates continued or renewed site-of-care substitution, the Commission will factor this information back into its DAF recommendation. (For background information supporting this recommendation, see Technical Appendix A.)

Recommendation 4: Adjustments for Case-Mix Change

For fiscal year 1989, the update of PPS standardized amounts should be adjusted for case-mix change in the following manner:

- **A positive allowance in the DAF of 0.5 percent for within-DRG case-complexity change;**
- **A positive allowance in the DAF of 0.9 percent for across-DRG patient-distributional change; and**
- **An across-the-board reduction in the DRG weights for increases in the case-mix index during fiscal year 1988, currently estimated to be 1.5 percent.**

The Commission believes that prospective payments to hospitals should reflect real case-mix changes associated with increases in resources used by patients. Increases in payments should not systematically result from upcoding, however, which

is associated with improved medical record coding practices but not with increased patient resource use.

The Commission separates case-mix change into three components. Within-DRG case-complexity change does not affect hospital payments, but it does reflect increases in patient-care resources. By contrast, across-DRG change in the distribution of patients affects both payments and resource use. Both components constitute real case-mix change. Changes in case mix resulting from upcoding, however, increase payments even though they do not reflect increased patient resource use.

The hospital case-mix index (CMI) measures the distribution of cases across DRGs. In patient billing data, which is used to compute the CMI, across-DRG patient-distributional change and change due to upcoding are indistinguishable. Thus, differentiating real case-mix change from upcoding in the CMI is an extremely important but difficult empirical problem.

The Commission's recommendation incorporates three adjustments. These are needed to allow payments to increase due to real case-mix change and to remove the effects of upcoding from the payment base. ProPAC includes an allowance for both components of real case-mix change as part of its discretionary adjustment factor. To account for upcoding, the Commission recommends offsetting all expected change in the case-mix index by an appropriate percentage reduction in the DRG weights. The combined effect of the allowances and the reduction is to allow payments to increase only for real case-mix change.

Case-mix index change in fiscal year 1988 is estimated to be 1.5 percent. Of this amount, 0.9 percent is attributable to changes in the distribution of patients across DRGs and 0.6 percent to upcoding. The Commission thus assumes that three-fifths of the total CMI increase is real. This assumption is consistent with past estimates that the proportion of real case-mix change increases as the total CMI change declines.

In the early years of PPS, the CMI increase attributable to upcoding was estimated to be quite large. The medical record data used to calculate the original CMIs contained inaccurately and

incompletely coded information. Hospitals have improved their coding practices since the implementation of PPS. In addition, hospitals now have the incentive to assign codes legitimately that will yield the greatest payment. Both of these practices shift patients into higher-weighted DRGs, thus raising CMIs. The Commission believes, however, that opportunities for hospitals to change their coding practices are declining. Changes in coding rules and DRG assignment strategies will continue to make upcoding possible, although at a slower rate than in the early years of PPS.

Across-DRG changes in patient distributions reflect increases in the resources used in patient care. New technologies may encourage more aggressive and resource-intensive treatments, like lithotripsy, that sometimes result in patients being placed in higher-weighted DRGs. Substituting outpatient treatments for inpatient stays is another source of this type of case-mix change. Such shifts reduce the frequency of cases in the lower-weighted DRGs relative to the higher-weighted DRGs, causing increases in the CMI. This is likely to diminish as the opportunities for outpatient shifts subside.

The Commission used data from the Commission on Professional and Hospital Activities (CPHA) to estimate a long-term trend of within-DRG case-complexity increases for the elderly. Based on this trend, within-DRG case-complexity change was estimated to increase average costs per case by 0.7 percent in 1986. One indicator of increases in this component of real case-mix change—declining admission rates—is less important now than in the early years of PPS. Stabilized admission rates indicate that cases that would have been assigned to low-weighted DRGs have already been shifted to outpatient settings. The estimate based on the long-term trend, therefore, was reduced to 0.5 percent in 1987.

The Commission uses data from HCFA on case-mix index change as the basis for the across-the-board reduction in the DRG weights. Because the estimate for CMI change in fiscal year 1988 is not yet available, the Commission is basing its 1988 figure on the final estimate of change during fiscal year 1987. Thus, the reduction and allowances are preliminary and may be modified when more current data are available. The Commission will report any modifications in the case-mix change

recommendation during the rulemaking period prior to the establishment of the fiscal year 1989 payment rates.

Recommendation 5: Update Factor for Excluded Hospitals and Distinct-Part Units

For fiscal year 1989, a target rate-of-increase factor, separate from the PPS update factor, should be used to update payment rates for the group of psychiatric, rehabilitation, and long-term care hospitals and hospital distinct-part units excluded from PPS. The target rate-of-increase factor should reflect the projected increase in the hospital market basket for these hospitals, corrected for forecast error. The net allowance for scientific and technological advancement and productivity should be zero, consistent with the targets established for PPS hospitals.

For fiscal year 1989, the target rate-of-increase factor for children's hospitals and distinct-part units should reflect the projected increase in the hospital market basket for PPS hospitals, corrected for forecast error. The net allowance for scientific and technological advancement and productivity should be zero.

Besides inflation and the correction for market basket forecast error, the Commission's update factor recommendation for excluded facilities includes two allowances: one for scientific and technological advancement, and another for productivity improvement. The Commission did not attempt to quantify each allowance precisely. Instead, it determined that the net of the individual DAF allowances should be zero.

Based on currently projected market basket inflation rates, ProPAC estimates that this recommendation results in a 5.2 percent target rate-of-increase for psychiatric, rehabilitation, and long-term care facilities. For children's hospitals, the target rate-of-increase is 5.1 percent. These estimates are subject to revision as more current forecasts of inflation become available.

The Commission's approach to developing the update factor for excluded hospitals is discussed in

the following sections. Its recommendations for excluded facilities are summarized in the table following this discussion.

Excluded Hospitals—The PPS statute created two broad classes of hospitals: those that are paid on the basis of DRGs and those that are not. Excluded hospitals—psychiatric, rehabilitation, children's, and long-term care hospitals (hospitals with unusually long average lengths of stay)—continue under cost-reimbursement rules, which limit increases in reimbursement per discharge. Both the PPS standardized amounts and the reimbursement limits for excluded facilities are to be updated each year.

The types of patients seen and the treatments they receive vary significantly between PPS and excluded facilities. In this report, the Commission adopts the same approach used in its previous update recommendations for excluded facilities. That is, it recommends that separate update factors be developed for children's hospitals and for the group of psychiatric, rehabilitation, and long-term care facilities excluded from PPS.

Market Basket—As in previous reports, the Commission recommends using the PPS market basket inflation factor for children's facilities. It recommends calculating a separate inflation factor for the group of rehabilitation, psychiatric, and long-term care facilities. The labor share of expenses in the latter group of excluded facilities is substantially higher than in PPS hospitals. Children's hospitals, however, have been shown to have a mix of labor and nonlabor expenses similar to PPS hospitals. The differences in the use of labor and nonlabor resources have substantially affected

calculations of the hospital market basket inflation factor in certain years.

The current forecasts of the fiscal year 1989 market basket increase for PPS and excluded facilities are extremely close: 5.1 percent and 5.2 percent, respectively. This may not be the case in the future. It is important to continue to calculate separate market basket inflation factors so that future differences in inflationary pressures can be detected and appropriately reflected in the target rate-of-increase factor. In addition, calculation of the individual inflation factors should be refined to account for differences in the skill mix of employees in PPS and excluded facilities.

Scientific and Technological Advancement—The scientific and technological advancement allowance is a future-oriented policy target. It reflects the Commission's judgment of the financial requirements for hospitals to implement cost-increasing but quality-enhancing technologies used to treat Medicare inpatients.

In developing this allowance, the Commission applied the same approach as that used for PPS hospitals. It attempted to estimate the potential effect of newly introduced devices or treatments on Medicare costs by examining a select group of technologies.

Analyses led the Commission to conclude that it is reasonable to incorporate the PPS allowance for scientific and technological advancement in the update factor for excluded facilities. Until more specific measures of case-mix change are developed, ProPAC believes the scientific and technological advancement allowance should accommodate treatment modality changes in response to

Estimated Percent Increase in Excluded Hospital Payment Limits for Fiscal Year 1989 Under Commission Recommendations

	Children's	Psychiatric, Rehabilitation, Long-Term Care
FY89 market basket increase ^a	5.1%	5.2%
Correction for market basket errors in FY88	0.0	0.0
Discretionary adjustment factor ^b		
Scientific and technological advancement	0.5	0.5
Productivity	-0.5	-0.5
Total change	5.1	5.2

^a Market basket estimate is likely to be modified as more recent data and forecasts become available.

^b In the Commission's judgment, the scientific and technological advancement and productivity components of the DAF should sum to zero. The individual estimates here represent only one point in a reasonable range for each component.

changing case mix. Therefore, the Commission set the allowance slightly higher than if it had been based solely on the emergence of new technologies.

Productivity—The productivity allowance is a future-oriented target that reflects potential changes in both efficiency and productivity resulting from implementation of constrained target rate-of-increase limits.

Wide annual fluctuations in the excluded facilities' admissions and limitations in the available data restrict any decisive conclusions concerning productivity trends. Given this uncertainty, the Commission determined that the productivity target for both excluded and PPS hospitals should be equally stringent.

Case-Mix and Site-of-Care Substitution Adjustments—The Commission reaffirms its previous recommendation that no adjustments should be made for case-mix change, real or otherwise, in the target rate-of-increase for excluded facilities. Excluded facilities are not paid on a DRG basis, and coding change does not influence their payments. Therefore, any PPS adjustment for coding change is inappropriate for these hospitals.

On the other hand, excluded hospitals may be experiencing increases in the medical care needs of patients due to earlier transfer of sicker patients from PPS hospitals. Suitable data for estimating the degree of case-mix change in excluded facilities are unavailable, however. The Commission has attempted to account for some of this case-mix change in the scientific and technological advancement allowance. (For background information supporting this recommendation, see Technical Appendix A.)

Recommendation 6: Timely and Accurate Medicare Cost Data

Availability of reliable and timely data is a critical priority for decision making. While significant improvements have been made in Medicare cost data timeliness, the Commission is concerned about the quality of these data for use in policy development. Therefore, the Secretary should consider improvements to the data to better reflect the costs of treating Medicare beneficiaries and to ensure comparability of data over time.

Accurate and timely cost data are essential to the development of informed PPS payment policy. These data are used by the Commission in determining the update factor recommendation, assessing the impact of PPS, and in other analytical activities. Furthermore, cost report data are widely used by HCFA and other organizations for both PPS and non-PPS analytic purposes.

Concerns about timely and accurate cost data have arisen often in the Commission's deliberations. In its April 1987 report, the Commission recommended that the Secretary routinely collect "early returns" Medicare cost report data from a subset of hospitals with accounting years beginning during the first four months of the Federal fiscal year. The Commission is pleased that the timeliness of cost report data has improved significantly since last year. In 1987, ProPAC received an early returns sample from the third year of PPS. Additional ProPAC analysis indicates that this approach is feasible and desirable for obtaining more timely data for hospitals excluded from PPS. (See Technical Appendix A.)

Although data have become available more quickly, the Commission hopes that the Secretary will explore additional methods to further improve the timeliness of cost report data. ProPAC also advises careful consideration of future changes to the cost report. Such changes could potentially delay the availability of data and inhibit the comparability of data across years. If changes to the cost report are necessary, any resulting delays or comparability problems should be minimized.

The Commission is concerned about the accuracy of Medicare cost report data for making policy decisions and assessing the impact of PPS on hospitals. Whether these data adequately reflect the costs associated with treating Medicare beneficiaries should be carefully examined. The extent of changes in cost reporting practices and the potential effect of these changes on cost measurement should be emphasized. ProPAC has completed an initial study of cost report data accuracy and plans to undertake additional work in this area. (See Chapter 3 and Technical Appendix A.) The Commission welcomes the opportunity to work with the Secretary to assess cost report data quality and identify areas for improvement.

Now more than ever, policy makers require reliable, timely, and consistent data to understand changes in hospital costs under PPS. The Commission recognizes that collecting and verifying these data can be costly for both hospitals and the Medicare program. Furthermore, the costs associated with changing the Medicare Cost Report (MCR) can be significant. Thus, funding must be sufficient to promote the development and maintenance of high-quality data. The Commission believes, however, that investments in cost data should be undertaken only if the benefits in improved timeliness and accuracy outweigh the added expense.

Adjustments to the PPS Payment Formula

Recommendation 7: Capital Institutional Neutrality

The Secretary should provide supplemental payments to hospitals for inpatient-related capital costs incurred at other facilities. Such supplemental payments should continue until capital is incorporated into the PPS payment rate.

The Congress has delayed implementation of prospective payment for capital until fiscal year 1992. Capital costs thus will continue to be paid on a reduced-cost basis while operating costs are paid prospectively on a fixed-price basis. This dual payment system introduces distorted incentives for hospital investment behavior. Until capital payments are incorporated into PPS, hospitals will continue having incentives that inappropriately substitute capital for labor and other operating costs. These incentives remain even though capital payments are reduced below full capital costs.

Under this dual payment system, capital payments are not neutral as to site of service delivery. Medicare does not pay the capital-related costs of services that a hospital purchases from other institutions for its inpatients. If the hospital provides those services in-house, however, it is reimbursed for Medicare's share of the associated capital costs. Thus, Medicare provides hospital managers with an incentive to develop the capacity to provide all services in-house. The Commission, therefore, reaffirms its recommendation for an institutional neutrality adjustment to reduce the effect of these incentives.

The 1981 data used to develop the standardized amounts incorporated payments to outside facilities that had provided services to Medicare inpatients. These payments did not distinguish between operating and capital costs. The standardized amounts, therefore, reflect an estimate of the full costs of those purchased services.

There have been several changes in the delivery of health care services, however, since the standardized amounts were developed. The introduction of new capital-intensive technologies and procedures and increased use of free-standing diagnostic and therapeutic centers have increased hospitals' opportunities to purchase services for inpatients. The capital costs of the new purchased services are not reflected in the standardized amounts. The institutional neutrality adjustment, therefore, is needed to account for these costs.

The institutional neutrality adjustment should incorporate the legislated reductions to capital pass-through payments. This would equalize the incentives to offer a service in-house or to purchase it from another provider. (Technical Appendix A provides additional information on how the institutional neutrality adjustment might be implemented.)

The Commission continues to be concerned about the distorted investment incentives introduced by the dual capital-operating cost payment mechanisms. ProPAC believes Medicare capital payment policy should not provide hospitals with incentives to favor investing in capital instead of labor or other operating inputs. ProPAC is investigating trends in capital and total expenditures and will present this information in *Medicare Prospective Payment and the American Health Care System*.

Recommendation 8: Indirect Teaching and Disproportionate Share Adjustments

The indirect costs of teaching and the costs of serving a disproportionate share of low-income patients should be recognized through the use of data-based adjustments to hospital PPS payments. These adjustments should be reestimated annually using the most recent cost data available. The Secretary should support further research efforts to improve measurement of the sources of hospital cost variation. Results

of this research could be employed to improve the overall structure of PPS payments.

Under PPS, hospital payments are based on national and regional average urban and rural rates. Payments are subsequently adjusted to account for hospital cost variation due to area wage rates, the costs of outlier cases, the costs of teaching hospitals, and the costs of serving a disproportionate share of low-income cases. As questions regarding the equity of PPS payments become increasingly important, the Commission intends to devote even greater attention to this vital policy area. In this recommendation, the Commission addresses the indirect teaching and disproportionate share adjustments.

For fiscal years 1984 and 1985, teaching hospitals received an 11.59 percent per case add-on to their PPS payments for every 0.1 percentage point in the hospital's ratio of interns and residents per bed. Beginning during fiscal year 1986 and continuing into fiscal years 1987 and 1988, the adjustment was lowered to 8.1 percent. The adjustment has been lowered again, to 7.7 percent, beginning in fiscal year 1989. Further changes in the indirect teaching adjustment are being discussed in the Congress and the executive branch. The Commission will examine these potential changes and conduct related analyses during the coming year.

During fiscal year 1986, the disproportionate share payment adjustment was added to PPS. Disproportionate share is defined as the sum of (1) the percentage of Medicare hospital patient days attributed to Medicare beneficiaries entitled to Supplemental Security Income (SSI), and (2) the percentage of total hospital days attributed to Medicaid recipients. The formulas used to calculate the adjustment vary by urban or rural location and bed size.

The Commission's recommendation addresses four major issues related to these adjustments: the use of a data-based estimate for calculating the adjustments, the need for reestimating the adjustments on a periodic basis, the need to maintain these payment adjustments as long as the data support their continuation, and the need for further research to improve the equitable distribution of hospital payments.

Data-based Estimates—The indirect teaching and the disproportionate share adjustments were derived from different forms of regression analysis. Regression analysis was used to calculate estimates of how much hospital cost variation, measured by Medicare operating costs per case, could be attributed to different factors. These factors included area wage rates, case mix, urban or rural location, the indirect effects of teaching, and a disproportionate share of low-income patients.

The Commission generally supports the current analytic approach to derive estimates for the indirect teaching and the disproportionate share adjustments. The approach, although admittedly not perfect, appears consistent with current policy goals. This view was supported by a technical advisory panel, convened by ProPAC staff to review the technical aspects of the analysis used to derive the adjustments and their policy implications. ProPAC will undertake further analysis of the adjustments, using alternative approaches to estimate the effects of teaching and service to low-income patients on Medicare costs per case.

More importantly, the Commission stresses the need to base the indirect teaching and the disproportionate share adjustments on estimates derived from data analysis. As PPS moves to national rates, sources of cost variation are recognized to a lesser degree in hospital payments. Equity of payments, therefore, is dependent on the use of data-based estimates to adjust payments.

Further, the Commission urges that special attention be given to hospitals facing the largest share of the cost burden from both the indirect costs associated with teaching and a disproportionate share of low-income patients. As part of its future analysis, ProPAC will identify the effects of large teaching programs and a disproportionately high share of low-income patients on cost variation for these hospitals.

Reestimating Adjustments—As cost patterns of hospitals continue to change, and as other aspects of the payment system are revised, reviewing the estimates used for the indirect teaching and disproportionate share adjustments becomes essential. The Commission believes that the adjustments should be reestimated annually, using the most

recent cost data available. Revised estimates could be used as a basis for changing the amount or form of the adjustments.

In addition, the Commission maintains that the indirect teaching and disproportionate share adjustments should be retained in the payment system, as long as data analysis indicate they are appropriate. In particular, the Commission is concerned that the disproportionate share adjustment is scheduled to expire in 1990.

Further Research Efforts—The Commission recognizes that the estimates for both adjustments serve as proxies for factors associated with hospital cost variation—for example, severity of illness—for which adequate measures do not yet exist. The Commission is concerned about identifying other factors that affect variation in cost per case.

In addition to the unintended proxy effects of the indirect teaching estimate, the Commission is concerned in general with how well the teaching and disproportionate share estimates measure cost variation. The Commission strongly urges the Secretary to support research on the sources of hospital cost variation. Significant research effort needs to be devoted to identifying factors affecting cost variation among hospitals and improving methods to measure how these factors affect costs. Assessing the adequacy of the intern to bed ratio as a measure of teaching effort, along with other factors identified in the literature, is also strongly encouraged.

As part of its future analytic agenda, the Commission will critically review the overall approach and amounts used to adjust payments. The relationships between the current adjustments—for example, the relationship between outlier payments and the indirect teaching adjustment—need to be examined to ensure an equitable payment system.

Recommendation 9: Labor Market Area Definitions

The Commission continues to believe that the current hospital labor market area definitions are seriously flawed. These definitions can be improved substantially with currently available data. Therefore, the Secretary should adopt the following definitions of hospital labor market areas:

- For urban areas, the Secretary should modify the current Metropolitan Statistical Areas (MSAs) to distinguish between central and outlying areas. The central area should be defined using urbanized areas as designated by the Census Bureau.
- For rural areas, the Secretary should distinguish between urbanized rural counties and other rural counties within each state. Urbanized rural counties should be defined as counties with a city or town having a population of 25,000 or greater.

The implementation of improved definitions should not result in any change in aggregate hospital payments. Furthermore, these definitions should not affect the assignment of hospitals to urban or rural areas for purposes of determining standardized amounts.

The Commission has had a long-term commitment to this issue and has studied it extensively. The Commission has made recommendations calling for improvements in labor market area definitions in each of its annual reports to the Secretary since April 1985. Furthermore, ProPAC conducted its own major study, which led to specific recommendations for improvements in its April 1987 report to the Secretary.

The Secretary rejected the Commission's proposal last year, stating that additional study and analysis were necessary to evaluate alternative options to redefine labor market areas and to determine their impact. In 1986, Congress enacted legislation requiring the Secretary to report on methods for improving hospital labor market areas by May 1987. The legislation also required the Secretary to collaborate with ProPAC on this report. The results of ProPAC's study have been shared with HCFA staff.

The Commission continues to believe that improvements are necessary to increase the equity of hospital payments. ProPAC also believes that its proposal represents the best available means for improving labor market area definitions.

In urban areas, the greatest improvement can be achieved by dividing MSAs into urbanized and non-urbanized areas. Hospitals within urbanized areas, on average, have wages almost 16 percent higher than hospitals in non-urbanized areas.

In rural areas, the greatest improvement can be achieved by dividing rural counties within each state into urbanized and other counties. The average hospital wage within urbanized rural counties is about 8.5 percent higher than the average wage within non-urbanized counties.

If implemented, the Commission's recommendation would increase the number of labor market areas from 365 to 527. The Commission believes that the improved equity of hospital payments is well worth the additional effort needed to make hospitals familiar with these new geographic boundaries.

ProPAC's proposal identified labor market area definitions that produced the greatest percentage difference in average hospital wages. The Commission's study showed that these wage differences remained even after adjusting for skill-mix differences between areas. ProPAC considered a number of other factors in developing its recommendation, including the amount of variation explained by the new definitions, the total number of new labor market areas, and the financial impact on individual hospitals. A complete discussion of these factors was presented in Technical Appendix A of ProPAC's April 1987 report.

The Commission believes that the effect of these new definitions on other PPS payment adjustments should be examined, and urges the Secretary to conduct such an analysis. ProPAC considered the financial impact of its proposal on individual hospitals. This analysis, published in Technical Appendix A of its April 1987 report, focused on changes in the wage index values of individual hospitals rather than the overall effect of new labor market areas on the distribution of PPS payments.

The Secretary conducted an analysis showing that ProPAC's recommendation would help hospitals already doing well under PPS. The Commission believes, however, that the Secretary should address the issue of financially troubled hospitals

directly as a separate issue, not indirectly by delaying improvements in labor market area definitions.

There is ample evidence that current labor market areas are poorly defined. ProPAC has called attention to this issue in its annual reports for three years, but the Secretary has chosen to postpone or to minimize the significance of the problem. The Commission believes this fundamental flaw in the original design of PPS should be corrected as soon as possible.

Recommendation 10: Evaluation of Sole Community Hospital Policies

Using the most recent data available, the Secretary should immediately initiate an evaluation of the adequacy of current Sole Community Hospital policies for protecting isolated rural hospitals. Based on this evaluation, the Secretary should develop policies to ensure that PPS payment policy does not jeopardize Medicare beneficiaries' access to inpatient hospital care in isolated rural areas.

The SCH adjustment was established under Section 223 of the 1972 Social Security Amendments and thus predates PPS. Concern for beneficiary access underlies continuation by the Congress of the SCH exception under PPS. Hospitals that become insolvent cannot continue to provide care to Medicare beneficiaries or anyone else. In isolated areas with single hospital providers, hospital closure would likely force area residents to travel long distances to receive care. While such travel might not be unduly burdensome for the general population, it could create a significant barrier to care for Medicare beneficiaries. Moreover, it could result in higher costs for both the Medicare program and the beneficiaries.

Current legislation grants the Secretary the authority to provide designated Sole Community Hospitals with three basic protections against financial insolvency. First, payment is based on a combination of 75 percent hospital-specific and 25 percent regional average rates. Second, SCHs are exempt from capital payment cuts. Third, SCH payment is adjusted for a decline in discharges of more than 5 percent over the preceding cost period, if the decline is due to factors beyond the hospital's

control. OBRA 1987 expands the latter provision to allow hospitals that qualify as SCHs to apply for the volume adjustment, whether the hospital is actually an SCH-designated hospital or not.

In both its April 1986 and April 1987 reports, the Commission expressed concern that the current SCH provisions might inadequately protect isolated rural hospitals and the beneficiaries they serve. Since these reports were issued, the Commission has become convinced that current PPS payment policies require reevaluation based on the most recent financial data available.

Medicare cost report data for a sample of SCHs suggest that even with the presumable protections afforded by SCH status, 25 percent of these hospitals incurred PPS deficits during the first two years of PPS. By the third year, more than 50 percent of the SCHs incurred PPS deficits. In that year, one-quarter of the SCHs incurred PPS deficits greater than 13 percent, and one-tenth of the SCHs incurred PPS deficits of 37 percent or more.

These deficits occurred despite attempts to contain the rate of increase in hospital costs. In fact, preliminary Medicare cost report data suggest that SCHs achieved significant cost reductions during the first three years of PPS. During this period, these hospitals reduced their aggregate operating costs by 0.4 percent per year. A 7.6 percent reduction in discharges, however, resulted in a 7.7 percent average annual increase in SCH cost per case. Nevertheless, the increases for this group were less than for any other group studied except major teaching hospitals.

It has been suggested that the shift to discharge weighted standardized amounts will improve the financial status of rural hospitals. For SCHs, however, discharge weighting will have a relatively small impact, since only the 25 percent Federal payment portion of the rate would be affected.

Based on this information, the Commission has concluded that a comprehensive evaluation should be made of the protections afforded isolated rural hospitals under current PPS policies. The evaluation should address why some hospitals appear to fare poorly under current policies while others appear to flourish. For example, while one-tenth of the SCHs incurred PPS deficits of 37 percent or

more, another one-tenth incurred PPS profits of 15 percent or higher during the third year of PPS. As will be discussed further in Recommendation 11, it is important to expand this evaluation to include all isolated hospitals, not just those currently designated as SCHs.

In ProPAC's opinion, any alternative policies developed should provide protections for financially vulnerable hospitals that serve isolated populations. The policies, however, do not have to reflect a return to cost-based reimbursement. Policies based on prospective rolling average base payments with annual updates, periodic rebasing to adjust for volume declines up to a threshold, and other alternatives should be explored.

The Commission will continue to evaluate this issue in an effort to assist the Secretary in the development of more appropriate policies for isolated rural hospitals. Efforts will focus on describing hospitals that gain or lose financially under current policies and relating hospital financial position to SCH status.

Recommendation 11: Clarification of Sole Community Hospital Designation Criteria

Before fiscal year 1989 begins, the Secretary should issue guidelines for interpreting the criteria used by HCFA regional offices to designate Sole Community Hospitals. The guidelines should be structured to provide greater uniformity in the standards used to designate SCHs. The Secretary should also assess whether the criteria themselves can be improved to better define sole hospital providers of care to isolated populations.

HCFA has specified that to qualify as a SCH under PPS, a hospital must meet one of the following conditions:

- It must be located more than 50 miles from the nearest similar hospital.
- It must be located between 25 and 50 miles from the nearest similar hospital and meet one of the following criteria:
 - It must be the exclusive provider to at least 75 percent of the service population, or to

at least 75 percent of the Medicare beneficiaries in its area, or

- It must have fewer than 50 beds; further, the Peer Review Organization or intermediary must certify that it failed to meet the exclusive provider criterion because specialty services were unavailable, forcing beneficiaries to seek care outside the area, or
- It must be isolated from the nearest similar hospital for at least one month per year due to local topography or severe weather conditions.
- It must be located between 15 and 25 miles from the nearest similar hospital and be isolated for at least one month per year due to local topography or severe weather conditions.

As of June 1987, 361 hospitals were designated SCHs. There are a few urban SCHs; most are small, rural facilities.

Not all isolated rural hospitals that qualify for SCH status apply for it. Some find the advantages of staying on national PPS payment rates outweigh those of SCH status. In addition, some hospitals have given up their designation, believing they are financially disadvantaged by the SCH payment formula of 75 percent hospital-specific and 25 percent regional rates.

Consequently, while the number of hospitals designated as SCHs is known, the precise number of hospitals that would otherwise qualify for such status is unknown. Moreover, the criteria themselves may be so restrictive as to exclude hospitals that are the sole source of care for a substantial portion of the population in certain rural areas.

In Recommendation 10, the Commission cited its concern that current PPS payment policies inadequately protect isolated rural hospitals against financial insolvency. In designing better protections, it is important to ensure that the SCH designation criteria reasonably define the hospitals serving isolated populations. At the very least, the hospitals eligible for SCH designation on the basis of current criteria should be identified. Such infor-

mation is essential to evaluate the impact of altering current SCH payment policies to better protect inpatient hospital access for Medicare beneficiaries living in isolated areas.

During the past year, ProPAC contracted to study the adequacy of current SCH criteria for identifying isolated rural hospitals. The study attempted to identify all rural hospitals eligible for SCH designation, whether they are actually designated or not. The study also simulated the impact of altering the criteria.

Study results suggest a mismatch between the set of hospitals that would meet current criteria and those that are currently designated. If the criteria were applied using nationally consistent standards, 211 rural hospitals would be eligible for SCH designation within the continental United States. This is significantly less than the approximately 308 rural hospitals currently designated as SCHs. Moreover, 119 SCH-eligible hospitals are not currently designated.

In part, the discrepancy may be attributable to the large number of rural SCHs that were grandfathered into the system (233). These hospitals were designated as SCHs by regional HCFA offices at a time when explicit criteria were not promulgated.

Another source of the discrepancy is the lack of uniform, measurable standards for implementing the current criteria. For example, the number of SCH-eligible hospitals is highly sensitive to the definition of a market area. The more narrowly defined the market area, the higher the probability a hospital can achieve a dominant market share. A small change in the hospital market area definition could qualify literally a hundred or more additional facilities.

Measurable standards do not exist for defining local market areas. The PPS regulations clearly indicate a 75 percent *market share* standard for hospitals between 25 and 50 miles from the nearest hospital. What is left unclear, however, is the definition of the local *market area*. Most regional offices use state planning areas to specify hospital market or service areas. These areas do not conform to any uniform definition across regions or states.

Moreover, except for hospitals with fewer than 50 beds, the market share criterion makes no allowance for patients requiring specialty services unavailable in the area. Even if this exception were expanded, the dearth of areawide, service-specific patient origin data would severely limit implementation of the exception in many parts of the country. It may be administratively simpler to slightly lower the market share criterion for small rural hospitals (i.e., those below a given bed size threshold) than to attempt to incorporate complex adjustments for specialty service out-of-area use.

Finally, the study suggests the potential benefits of giving hospitals the option to demonstrate geographic isolation based on travel-time rather than distance. Under the current distance criterion, approximately 236 hospitals would not be considered isolated even though the nearest hospital was more than 40 minutes away by automobile. These hospitals would not be eligible for SCH status unless they met other criteria related to market share, severe weather, or local topography.

Based on its analyses, the Commission has concluded that the guidelines for interpreting the SCH designation criteria need to be strengthened. Moreover, the criteria themselves require a careful re-evaluation. If the goal of the SCH provisions is to ensure that Medicare policies do not jeopardize beneficiary access to inpatient hospital services, the Commission believes that the SCH designation criteria should reasonably define the hospitals serving isolated populations. Potential changes that deserve particular attention include relaxing the 75 percent market share criterion, and providing the option for hospitals to demonstrate isolation based on travel-time instead of distance. (For more information on this recommendation, see Technical Appendix A.)

Quality of Care

Recommendation 12: Evaluation of PRO Review and Quality of Care

The Secretary should review and synthesize the findings of Peer Review Organizations over the past four years. A major, comprehensive evaluation of PROs and their impact on quality of care should follow. The evaluation should focus on issues of access to and use of services, patterns of denials,

and instances of poor quality care. Issues related to expenditure control and efficient administration of PRO contract requirements should be secondary to broader quality of care evaluative goals. The assessment should evaluate and compare criteria used to make judgments about when care is appropriate. Finally, this major study should assist the Secretary in developing and implementing mechanisms for expanded PRO review of episodes of care that are patient-oriented rather than institution-oriented.

In making this recommendation, the Commission reiterates points made in previous reports. In 1986, ProPAC urged that PROs undertake expanded review into episodes of care. In 1987, the Commission called for a major evaluation of the findings of PROs and their impact on quality of care. Responding to the 1987 recommendation, the Secretary repeatedly mentioned administrative review techniques as a method of PRO evaluation. This ongoing contract monitoring and review was not the focus of ProPAC's concern. Instead, the recommended major evaluation should be in addition to the administrative program oversight frequently cited by the Secretary.

PROs have been in place for four years. The cumulative experience of all PROs in their review of the process and quality of care received by Medicare beneficiaries is unique and extremely valuable. This experience needs to be synthesized, analyzed, and evaluated. The results of this synthesis and evaluation should be made public.

Two ProPAC studies undertaken this year have indicated a need to review carefully the criteria PROs use to determine the necessity and appropriateness of acute medical services. In research on transitional and subacute care, the need for more uniformity in using and applying criteria to discharge decisions was documented. Similarly, a study of preadmission review identified problems with the definition and application of criteria for patient admissions to the hospital.

Thus, the Commission believes the Secretary's evaluation should review the development, use, and application of criteria related to medical necessity and appropriateness. The evaluation should

verify the suitability of all existing criteria for purposes of medical necessity and appropriateness review. The Secretary should then provide advice about the strengths and weaknesses of existing criteria to PROs and other utilization review organizations.

The conceptual basis of PRO review should be considered in detail. Early PRO activity was appropriately focused on expenditure and administrative controls. A maturing and evolving PRO program should focus more on outcomes of care as well as access to and use of services. The spectrum of review should be widened to consider preadmission activities, the process of acute care, and post-acute care needs and services. The appropriate mix of reviews in all these areas should be examined, along with the number of reviews and the types of tools needed to identify quality of care problems.

The refinements identified in the major evaluation should move the PRO program toward more extensive review of the appropriateness of medical care. Inappropriate and unnecessary care is not high-quality care. The development of more sophisticated techniques to identify inappropriate care should thus be a major priority for Federal research and analysis. The knowledge and experience of PROs should be used in these activities.

Patient Classification and Case-Mix Measurement

Recommendation 13: Improvements to Case-Mix Measurement

The Commission continues to believe that the DRG system is the best available measure of hospital case mix for the Medicare PPS. The Secretary should continue, however, to refine the DRGs to improve the equity of hospital payments and update the DRGs to account for changing technology. The Secretary should focus on generic improvements through the use of patient data currently available from the discharge abstract. The Secretary should also consider the use of temporary, technology-specific DRGs whenever assignment to existing DRGs is not appropriate.

In the past three years, the Commission has considered three general approaches to improving the measurement of hospital case mix: (1) retain the DRG system but revise it incrementally as problems emerge; (2) retain the DRG system in principle but reconstruct it using a newer, more complete data base; and (3) implement an alternative system, either in conjunction with or as a replacement for the DRGs.

To date, the Commission has recommended retaining the current system along with several incremental modifications and improvements. ProPAC has also expressed its concern regarding variations in resource use within some DRGs. The Commission recognizes that, as a case-mix measurement tool, DRGs require periodic adjustments to ensure fair and equitable payments. For example, DRGs periodically need to be created, changed, or modified to incorporate new technologies. ProPAC also recognizes that in the long-term it may be necessary to consider an alternative patient classification system to replace or modify the DRGs.

As part of its efforts to identify improvements in case-mix measurement, the Commission convened a technical advisory conference on patient classification systems in June 1987. Participants included the developers of six major patient classification systems, researchers, and policy makers knowledgeable in this area. The conference was held to inform ProPAC about the latest advances and developments in each of the systems, and to determine the Commission's role in evaluating their potential use in the Medicare prospective payment system.

Conference participants supported the conclusions regarding case-mix measurement reached by the Commission in its April 1987 report. These conclusions are:

- Research concerning the possible use of alternative case-mix systems to modify or to replace DRGs is still at an early stage. It is unlikely that any of the systems will be ready for use under PPS within the next two years.
- For the short-term, modest but important modifications in the DRGs can be made using currently available information from the discharge abstract.

- For the long-term, greater improvements in case-mix measurement may be achieved through systems that use clinical data not currently available from the discharge abstract.

Further research is warranted to evaluate the cost and benefit of collecting additional data.

Based on the information presented and discussed at the conference, the Commission believes it is premature to implement an alternative case-mix system for payment of Medicare hospital inpatients. However, ProPAC will continue to monitor the development and implementation of alternative case-mix measurement systems. The Commission will also continue to track studies that evaluate alternative systems, including a comprehensive study recently funded by HCFA.

The Commission continues to believe that the DRG system can be improved. In its April 1987 report, ProPAC made the following recommendations to the Secretary for generic improvements in the DRGs:

- Eliminate age over 69 as a criterion for defining DRGs,
- Refine the list of complications and comorbidities, and
- Update the surgical hierarchies and list of operating room procedures.

The Secretary generally agreed with these recommendations and implemented some, but not all, the changes called for by the Commission. For example, ProPAC recommended modifying the list of complications and comorbidities to reflect differences in the relative intensity of resource use. ProPAC also recommended examining DRGs that do not currently split on the basis of CCs to determine whether such a split should be made. HCFA is conducting a study to develop both of these improvements in the use of CCs. The Commission encourages the Secretary to implement these improvements as soon as possible.

For fiscal year 1988, the Secretary expanded the use of non-operating room procedures and the use of combinations of diagnoses to assign cases to some DRGs. These fundamental changes may improve the DRGs. The Commission cautions the

Secretary, however, not to implement such major changes on a piecemeal basis. Instead, the Secretary should identify appropriate fundamental changes and examine the potential benefits across all DRGs.

The Secretary's current policy for updating DRGs utilizes similarity of resource use as a criterion for determining DRG assignment for cases involving new technology. The costs associated with new technologies may, however, change rapidly as the technologies diffuse and are used more widely. This policy, therefore, can create inappropriate economic incentives or disincentives related to the use of new technologies. The Commission believes that temporary, technology-specific DRGs are a valuable alternative under certain circumstances when no existing DRG is appropriate for a new technology. The Commission's recommendation would permit the Secretary to collect data on the cost of a new technology for Medicare cases as use of the technology spreads. It would also maintain the clinical coherence of existing DRGs.

Recommendation 14: Coding Improvements

The Secretary should formalize a more timely, systematic, and consultative approach to consider ICD-9-CM codes for new diagnoses, procedures, devices, and other treatments. When new codes are considered and created, both coding and clinical specialists should be involved. The Commission continues to support its previous recommendations that the Secretary review Chapter 16 codes and coding procedures.

The ICD-9-CM Coordination and Maintenance Committee has made a number of changes that have resulted in more timely implementation of new codes and improvements in existing codes. However, the Committee could achieve further improvements by using a more systematic approach to identify conditions and treatments for review.

The Committee now considers coding changes that are requested by members and other interested parties on an ad hoc basis. It meets three times each year, and issues must be presented to the Committee no later than November for implementation in the following fiscal year. This timetable entails an 11- to 23-month delay after problems have been brought to the Committee's attention.

ProPAC believes that the need for new or modified codes could be identified earlier if the Committee followed a more systematic approach in setting its agenda. For example, the Committee should review all devices newly approved by the FDA. It should also routinely consult professional societies to identify important new technologies that merit codes. Both coding and clinical specialists should be involved in the development of new codes and the revision of existing codes.

Chapter 16 of the ICD-9-CM system is a compendium of symptoms, signs, ill-defined conditions, and abnormal findings of laboratory and investigative procedures. The Chapter 16 rules contradict the usual guidelines of the ICD-9-CM coding system concerning the sequence of principal and secondary diagnoses. They have, in some cases, impeded appropriate DRG assignment of important diagnoses. The Commission believes the guidelines prohibiting the use of Chapter 16 codes as principal diagnoses should be reviewed.

ProPAC has identified two specific coding problems in its work this year. The Commission believes that codes need to be created for partial joint replacements where they do not currently exist. There are also serious problems with the diagnosis codes for myocardial infarction and other ischemic heart disease. The ICD-9-CM Coordination and Maintenance Committee is modifying some of the long-recognized problems with these codes. These modifications will distinguish patients with a new-onset MI from those who have had an MI within several weeks. ProPAC has identified other problems with the MI codes that have not been addressed by the Committee. (See Technical Appendix B.)

DRG Classification and Weighting Factors

Recommendation 15: Method of Recalibrating the DRG Weights

The DRG weights should be annually recalibrated on the basis of costs rather than charges. The Secretary should implement cost-based weights starting with the fiscal year 1989 recalibration. The Commission is concerned, however, about the current Medicare cost-finding methods for estimating costs. The limitations of the Medicare

cost report data may, in some cases, produce imprecise DRG weights. Thus, the Secretary should verify the accuracy of the cost report data and implement changes as necessary.

The Commission believes that, beginning in fiscal year 1989, the DRG weights should be calculated on the basis of charges adjusted to estimate costs rather than charges alone. Charges are set by hospitals based on many factors, including estimated costs, market conditions, payer mix, and revenue maximization strategies. This process may result in charges that are significantly above or below the costs of resources used to produce the service. The variation in charge-setting practices also results in charges that are generally not comparable across hospitals.

The original DRG weights were cost-based. Computed using 1981 patient-level charge data, they were adjusted using per diem costs and cost-to-charge ratios from the 1981 Medicare Cost Reports. The first recalibration of the weights was completed for fiscal year 1986 using fiscal year 1984 patient billing data. Because current cost report information was not available at the time, HCFA developed these new weights based on charges alone.

In the most recent recalibration for fiscal year 1988, HCFA has again used only charges to calculate the DRG weights, although more recent MCR data were available from the second year of PPS. During 1987, the Commission analyzed the two methods for recalibrating the DRG weights to determine if a return to cost-based weights is warranted. The analysis compared weights calculated using charge data alone (charge-based weights) with weights calculated using charges that were adjusted to approximate costs (cost-based weights). The results demonstrate that cost-based DRG weights and hospital case-mix indexes differ significantly from current charge-based weights and CMIs. Thus, the two sets of weights are not interchangeable, and the Commission believes that the cost-based methodology is preferable.

Weights for medical DRGs would be higher under the cost-based methodology, and surgical DRG weights would be lower. Thus, while aggregate payments would remain unchanged, moving to

cost-based weights would redistribute payments from the surgical DRGs to the medical DRGs. In general, this redistribution would result in lower payments to large, urban, and teaching hospitals coupled with higher payments to small, rural, and nonteaching hospitals. This is because the former group of hospitals treats a larger proportion of surgical cases. Further information on the redistributive consequences of the Commission's recommendation and the related analyses are in Technical Appendix B.

ProPAC recognizes that uncertainty exists regarding the adequacy of the current data and methods for estimating costs. Some have argued that the current Medicare cost-finding methodology (i.e., step-down allocation, apportionment of costs between Medicare and other payers, and assignment of costs between PPS and pass-throughs) distorts estimates of true cost. Further, ancillary level cost-to-charge ratios (RCCs) may not be accurate for all services provided within a department.

ProPAC nevertheless believes that real resource use is more accurately reflected by currently available cost data—even if they are imperfect—than by charges. The cost-based methodology for calculating DRG weights removes some of the variation in charges related to hospital charge-setting practices. In addition, the cost-based methodology explicitly removes the estimated costs of capital and direct medical education. These costs currently are not paid under PPS and should not be reflected in the DRG weights. By contrast, the charge-based weights are assumed to include these costs.

For these reasons, ProPAC believes that the cost-based approach is preferable. The Commission, however, urges the Secretary to devote the necessary resources to study the current Medicare cost-finding methods. The Secretary should verify the adequacy of the cost report data and make the necessary improvements. During 1988, the Commission will also study this issue further.

Recommendation 16: Improvements to DRG 468

The Secretary should reassign cases from DRG 468 to existing surgical DRGs. These cases should be reassigned using secondary, rather than principal, diagnoses. Cases that can be reassigned to more than one DRG

should be assigned to the DRG with the highest relative weight.

DRG 468 is the miscellaneous category for all surgical cases with procedures that are clinically unrelated to their principal diagnoses. The Commission believes that refinements to this DRG are necessary to improve the accuracy of patient classification. In fiscal year 1986, DRG 468 was one of the 15 highest-volume DRGs, with more than 120,000 cases. Because DRG 468 is a miscellaneous category, it shows considerable variation in resource use. It also has more outliers than any other DRG. Finally, DRG 468 is not clinically coherent because it contains all unrelated combinations of principal diagnosis and surgical procedure.

The Grouper program assigns cases to DRG 468 in the following way. First, it groups all cases into a Major Diagnostic Category according to principal diagnosis. Then, it assigns surgical cases to a DRG using an MDC-specific list of procedures. These lists were developed using clinical judgment to identify procedures related to the principal diagnoses in each MDC. Finally, the Grouper program assigns any surgical case with no procedures on the MDC-specific list to DRG 468.

For fiscal year 1988, the Secretary implemented several changes in the Grouper program to improve the clinical coherence of DRG 468. However, these changes will not substantially reduce the variation in resource use, the large number of cases, or the large number of outliers in DRG 468.

The Commission studied three alternative approaches for reducing the large volume of cases assigned to DRG 468. Each approach modified the Grouper program to reassign cases from DRG 468 to new or existing DRGs. (See Technical Appendix B.) This study led ProPAC to conclude that the best approach is to reassign cases from DRG 468 to existing DRGs, using resequenced secondary diagnoses.

The Commission's recommendation requires the following modifications to the Grouper program for cases in DRG 468. First, the Grouper should resequence each secondary diagnosis and treat it as a principal diagnosis. It should also treat the original principal diagnosis as a secondary diagnosis.

Then, the Grouper should determine a DRG assignment for each resequenced secondary diagnosis. This can produce as many as four possible DRG assignments, because Medicare discharge abstracts include up to four secondary diagnoses. Finally, cases with multiple DRG assignments should be assigned to the highest-weighted DRG.

The Commission believes this is the best approach for improving DRG 468. First, it does not require any new DRGs. Almost all cases (88 percent) in DRG 468 can be reassigned to an existing surgical DRG. Second, the average cost of cases reassigned from DRG 468 is comparable to the average cost of cases already in each reassigned DRG. Therefore, this approach will not substantially affect DRG relative weights.

The Commission's approach represents a departure from the current assignment principles of the DRG system. It permits secondary diagnoses, rather than the principal diagnosis, to determine DRG assignment for cases in DRG 468. But DRG 468 was always unusual in several respects. In fact, the system's architects originally designed this DRG to identify atypical cases rather than serve as a basis for payment. By removing many cases from DRG 468, the Commission's recommendation is consistent with this original intent.

ProPAC believes this change is justified because cases in DRG 468 cannot be assigned to existing surgical DRGs using principal diagnosis. The Commission's approach is similar to the assignment principles of other patient classification systems, such as Disease Staging and Patient Management Categories. Unlike DRGs, these systems examine all diagnoses regardless of their sequence to determine the patient's underlying disease condition. The Commission believes its approach substantially improves patient classification without greatly increasing the complexity of the DRG system. The Commission will continue to monitor the effect of its recommendation and to study additional ways of reducing assignment to DRG 468.

Recommendation 17: Burn Hospitals and Units

The Commission supports the intent of current legislation temporarily increasing outlier payments for burn DRGs. However, the Commission's preliminary analysis indicates that the increase in outlier payments

is appropriate only for those cases treated in specialized burn centers and units. The Commission will examine this topic further and submit additional recommendations to the Congress and the Secretary of Health and Human Services as required by the Omnibus Budget Reconciliation Act of 1987, Pub. L. 100-203.

The Omnibus Budget Reconciliation Act of 1987 temporarily increases outlier payments for burn DRGs. Cost outlier payments will be increased to 90 percent of marginal costs, and day outlier payments will be increased to 90 percent of the appropriate per diem. The legislation did not change the threshold for either cost or day outliers. This outlier payment policy will continue until fiscal year 1990.

OBRA 1987 also requires the Commission to report to Congress and the Secretary of HHS on this method of outlier payments for burn DRGs. In addition, ProPAC is required to present options for more adequate and appropriate payments with respect to burn outlier cases.

While the Commission supports the intent of this legislation, its analysis indicates that additional payments are appropriate only for those hospitals with specialized burn care units. The Commission analyzed data from 1986 MEDPAR file to determine the equity of PPS payment for burn cases treated by specialized burn centers and units. This analysis compared the average costs and average PPS payments for burn centers and other PPS hospitals. The preliminary results indicated that costs for hospitals with specialized burn centers and units were consistently higher than PPS payments for burn cases. The analysis also indicated that the costs of PPS hospitals without specialized burn units were considerably lower than PPS payments.

In addition, this analysis indicated that, compared with other PPS hospitals, hospitals with burn centers and units had a substantially higher percentage of outlier burn cases. (See Technical Appendix B for information on the burn DRGs examined.) The Commission believes that refinements in outlier payment policy may ameliorate some of the financial losses experienced by these hospitals (Recommendation 18).

Payment for Outlier Cases

Recommendation 18: Outlier Payment Policy

The Secretary should modify outlier payment policy to protect hospitals more adequately from the risk of extremely costly cases. Hospital-specific cost-to-charge ratios should replace a national cost-to-charge ratio for calculating cost outlier payments. Greater emphasis should be placed on costs rather than length of stay for determining outlier payments. As an interim step toward emphasizing costs, the Secretary should move from day outlier precedence to paying the greater of day or cost outlier payments. Furthermore, the Secretary should adjust threshold levels so that 40 to 50 percent of outlier payments are paid as cost outliers.

The Commission urges the Secretary to increase outlier contributions to the maximum of 6 percent of total projected payments allowed under the statute. A correction should be made in the following year's payments if the amount paid for outliers is different from the amount set aside. If necessary, the Secretary should seek statutory change for these initial improvements while continuing analysis to refine outlier payment policy. Further analysis should also include consideration of an increase above the 6 percent set-aside amount allowed under the statute.

The Commission reaffirms its previous recommendation that outlier payment policy should be refined to reflect more accurately the resources hospitals use to treat extraordinarily expensive cases. The PPS statute recognized that hospitals warrant additional payment above the fixed DRG payment for treating such cases. As part of PPS, outlier policy was designed to limit the financial risks of a fixed-price system and to account for limitations in case-mix measurement.

The Commission is concerned with the level of losses that hospitals incur under current outlier policy. Analyses completed by ProPAC and others indicate that current outlier payments do not effec-

tively limit the risk of financial losses associated with the random and systematic occurrence of extraordinarily expensive cases.

Ratios of costs to charges vary significantly across hospitals. Therefore, a change from national to hospital-specific RCCs will redistribute outlier payments to some extent. Under current policy, however, a comparison of national and hospital-specific RCCs showed no systematic pattern across hospital groups in the average difference between payments and costs for outlier cases. Further, there was no systematic pattern in major losses across hospital groups. These findings were also obtained in a simulation of paying for cost outliers only, which places maximum importance on the use of RCCs to calculate outlier payments.

Use of a national RCC combined with greater emphasis on costs would result in an inappropriate shift of payments to hospitals with low RCCs. The Commission believes that the incentives to raise charges to maximize outlier payments would become stronger with greater emphasis on costs if a national RCC were continued.

The Commission's analysis indicates that day outlier cases, on average, consume fewer hospital resources than cost outlier cases. ProPAC recognizes, however, that both days and costs, as derived from Medicare charge and cost data, are proxies for true costs. Emphasis on either factor affects the distribution of payments across hospital groups.

The Commission recommends changing from day outlier precedence to paying the greater of day or cost outlier payments. This recommendation is based on a preference for emphasizing costs in outlier payment policy. Better cost information is needed, however, to more accurately reflect true hospital costs and to develop hospital-specific RCCs. Therefore, the Commission favors a gradual approach toward greater recognition of cost outliers. Some hospitals that are adversely affected might not be able to absorb the entire reduction in outlier payments easily if the movement to greater emphasis on costs were abrupt. ProPAC is also concerned that the continued use of charge data to estimate costs can distort estimates of true costs in favor of certain types of procedures and hospitals.

The Commission's recommendation would allow more time to analyze the effect of the shift away from day outlier precedence on hospitals' pricing strategies. Analysis is needed to understand how hospital response to different precedence options would affect length of stay. Additional time is also required to develop cost data and methods that measure true costs more accurately.

Preliminary analysis indicates that greater loss protection can be achieved by increasing the outlier pool size. The amount of extra protection appears to fall as the pool size is increased, however. Alternative set-aside amounts should be evaluated to balance the risk-reduction objective of outlier payments with the cost-reduction incentives of fixed price payments. This evaluation should take into account a more optimal outlier payment policy that emphasizes costs.

Until this analysis can be completed, the Commission believes that the Secretary should increase the outlier pool to the maximum 6 percent of total projected payments allowed under the statute. In addition, since there have been significant differences between outlier set-asides and actual outlier payments, a correction should be made in the following year's payments if the amount paid for outliers is different from the amount set aside.

ProPAC will continue to examine outlier payment policy, including the goals of such policy and the extent to which total payments for outlier cases should reflect the reasonable costs of outlier cases. The Commission will also analyze the outlier payment structure, particularly the method for defining outliers and setting day or cost outlier thresholds.

Furthermore, the Commission believes the effects of increasing the outlier pool on inlier payments should be examined. Under current policy, the outlier pool is funded by reducing payments for the inlier portion of care. Therefore, increasing the outlier pool might result in significant losses for hospitals that have relatively few outlier cases. In addition, alternative funding approaches, such as DRG-specific set-asides, should be examined.

Still other issues that remain for future examination include determination of a marginal cost factor, and the relationship between outlier payments and the indirect teaching and disproportionate share adjustments. Further analysis of these additional outlier issues is necessary before a fully integrated, reformed policy can be developed. The Commission will be pleased to work with the Secretary in analytic efforts to improve outlier payment policy.

Chapter 3

Issues for Future Consideration

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Issues for Future Consideration

In the early years of PPS, attention was appropriately focused on improving its technical aspects. Continued refinements of PPS, however, are increasingly dependent on broader-based evaluations of the impact of the system. The Commission's work has also changed, shifting emphasis to an assessment and evaluation of PPS. This chapter discusses the major issues the Commission will consider in its future analytic work as PPS and the health care system continue to evolve.

The changing characteristics of the health care system further underscore the need for a broader evaluation of the effects of PPS. Medical care provided to inpatients and care provided in other settings are increasingly interdependent. ProPAC will thus examine PPS in light of the experiences in the entire health care system, not just the inpatient hospital setting.

ProPAC is concerned that emphasis on moderating inpatient costs may have caused increases in total health care costs. The Commission believes that shifts in site of care, changes in the volume of services delivered in various settings, and increases in competition among providers affect total health care costs. As it evaluates the impact of PPS, ProPAC will consider these changes in health care delivery and financing. The Commission will consult and coordinate its efforts to investigate these issues with the Physician Payment Review Commission.

More comprehensive evaluations of PPS are possible because more data are available. Information on Medicare inpatient costs, total hospital costs, and beneficiary utilization under PPS has been compiled. More and better data sources to supplement Medicare billing information are needed, however. The continuing challenge is to develop

data capabilities to evaluate the quality of care, total costs, and service utilization throughout an entire episode of care.

The major Medicare and PPS issues the Commission believes require public policy attention are: level of PPS payments, distribution of PPS payments, improving the data used for analyzing PPS payments, hospital behavioral responses to PPS, shift of services for an episode of care, and beneficiary access and quality of care. The Commission will continue to explore these issues, as discussed below.

LEVEL OF PPS PAYMENTS

The total level of payments under PPS is adjusted annually through the update to the standardized amounts. The Commission is concerned about providing an appropriate level of payments to hospitals because of the need to ensure beneficiary access and high quality of care. At the same time, payments should encourage efficiency and cost-consciousness in the delivery of services. The Commission will continue to examine the level of PPS payments. These efforts will focus on estimating and understanding the factors that affect hospital costs.

Annual Update Factor

The principal components of the Commission's annual update recommendation are the market basket forecast and the discretionary adjustment factor. The market basket forecast allows for changes in the price of the goods and services used by hospitals. The DAF is composed of four components that influence the average cost of a discharge: scientific and technological advances, hospital productivity, site-of-care substitution, and real case-mix change. Within this analytic framework, the

Commission has developed separate measures for each of these components. (These are described in more detail in Technical Appendix A.)

Scientific and Technological Advances—The Commission bases this component of the DAF on estimates of the change in Medicare operating costs caused by the adoption of specific quality-enhancing technologies. In 1986, ProPAC estimated the additional operating costs associated with adopting selected new technologies. In 1987, the Commission expanded its approach to include a more comprehensive list of technologies. ProPAC will continue to use and refine the same methodology to estimate the costs of scientific and technological advances. The methodology, however, will be more comprehensive by including estimates of use and costs of a broader range of new technologies and practice patterns. It will also incorporate refined cost-estimation techniques.

Hospital Productivity—The Commission has tried to understand factors that affect hospital productivity by examining changes in both hospital inputs and expenditures since the early 1980s. Hospital productivity trends are particularly difficult to measure and assess because productivity and changes in the hospital product are hard to define. For example, inflation-adjusted expenses per discharge, an aggregate output measure, rose 4.1 percent from 1985 to 1986. Controlling for real case-mix change—a measure of product change—reduces the growth rate to 2.1 percent. Future Commission work will focus on refining measures of intermediate and discharge productivity and accounting for product change.

Site-of-Care Substitution—The Commission has estimated the effect of site-of-care substitution on the basis of declines in hospital length of stay and evidence that more services were being provided out of the hospital. Hospital length of stay now is relatively stable. This partially removes the empirical basis for continuing this adjustment. The Commission will continue to monitor data on length of stay and service delivery for renewed evidence of a need for the site-of-care substitution adjustment.

Real Case-Mix Change—The average DRG case weight increased more than 7 percent from 1984 to 1986. This change partly reflects increases in the

resources devoted to treating the average Medicare inpatient—that is, real case-mix change. Changes in the average DRG case-weight also reflect improved medical record coding practices that alter DRG assignment. The Commission is working with HCFA to develop a method to apportion case-mix index change into real and coding change components. ProPAC also is refining its method to measure case-complexity change within DRGs, a component of real case-mix change that is not measured by the case-mix index. The method will group patients in each DRG by severity of illness using alternative patient classification systems. Changes in severity of illness, holding DRG constant, will be calculated using Medicare program data. The estimated costliness of these changes will be used to develop the within-DRG case-complexity change component of the update recommendation.

PPS Costs, Revenues, and Operating Margins

The Commission will continue to examine the factors that affect hospital costs. Medicare operating costs per case rose at an average annual rate of 10.2 percent during the second and third years of PPS. This increase is 6.4 percentage points above the average PPS market basket increase during this period. Average PPS hospital revenues increased 10.3 percent between the first and second years and 3.0 percent between the second and third years of PPS.

Hospital PPS operating margins—the difference between PPS payments and Medicare allowable operating costs as a percent of such payment—reflect these changes in costs and revenues. During the first and second years of PPS, the overall PPS operating margin was 14.0 percent and 14.3 percent, respectively. It had fallen to 8.2 percent by the third year of PPS. Based on preliminary data, the Commission estimates that the average PPS operating margin fell to about 2 percent in 1987 and will probably fall below zero in 1988.

Clearly, the large volume declines that hospitals experienced during the first three years of PPS contributed to the rapid increase in average costs per case. Volume, however, is not the only factor contributing to this change. A better understanding of hospital costs and the factors that influence

changes over time will help inform the deliberations on the annual update factor. Further, this information is essential for modifying PPS to better serve the Medicare program and its beneficiaries.

PAYMENT DISTRIBUTION ISSUES

Under PPS, the distribution of these payments across types of hospitals is as important as the level of aggregate payments. In general, the distribution of payments is governed by four elements of PPS: DRG classifications and weights; payment adjustments for indirect teaching and disproportionate share status; outlier payments; and payment adjustments for geographical cost differences. Variation in resource use across hospitals also affects the adequacy of the distribution of payments. Analyses related to these factors are discussed below.

DRG Classifications and Weights

The equitable distribution of PPS payments is directly influenced by the adequacy of the DRG classifications and the accuracy of the DRG weights. The classifications and weights must be updated to account for new technologies and changing practice patterns, and to reflect changes in relative resource use. In addition, the methods and tools used to define the DRGs and to calculate weights require continued study to ensure proper distribution of payments.

During 1988, ProPAC will continue to analyze changes in the treatment of myocardial infarction and hospital admissions related to AIDS. In addition, many of the other issues the Commission has already addressed will be monitored to determine if further adjustments are needed. Implementing these improvements may require modifications to the ICD-9-CM coding system. Although HCFA is primarily responsible for coding maintenance and improvements, ProPAC will continue to monitor this activity and suggest necessary modifications to the coding system.

In addition to specific improvements to DRGs or groups of DRGs, generic improvements in the DRG definitions are sometimes warranted. Since the implementation of PPS, a significant amount of government and private research has focused on the ability of the DRG classifications to distribute payments equitably across hospitals and patients.

These efforts have typically attempted to measure and reduce the heterogeneity of the DRGs.

Research on alternative case-mix measurement systems to modify or replace the DRGs is still at an early stage. A potentially fruitful area for short-term generic DRG improvement is through refining the definitions of CCs. Work on CCs, sponsored by HCFA, is nearing completion and may yield significant improvements in DRG homogeneity for fiscal year 1989. The Commission will continue to examine these and other improvements under consideration by HCFA.

Indirect Teaching and Disproportionate Share Adjustments

The indirect teaching and disproportionate share adjustments to PPS payments significantly affect the distribution of payments across hospitals. More than 1,000 PPS hospitals receive an indirect teaching adjustment. For those hospitals, the average adjustment to the Federal rate is about \$475 per case in 1988 dollars. More than 1,200 hospitals receive adjustments to their PPS payments because they treat a disproportionate number of poor people. Prior to recent legislation, the average adjustment to the Federal rate for these hospitals was \$280 per case in 1988 dollars. Further, many hospitals that receive an indirect teaching adjustment also receive a disproportionate share adjustment.

These adjustments were developed to compensate hospitals for increased costs not otherwise recognized by the PPS payment formula. ProPAC is examining these two major adjustments as part of a broader effort to understand cost variations across hospitals. The Commission will analyze the empirical basis and the policy implications of these adjustments as well as possible alternative measures of these costs. This study will be helpful in evaluating the appropriateness of PPS payments.

Outlier Payments

Since the implementation of PPS, modifying outlier payment policy has been recognized as one of the most important avenues for improving the equity of PPS payments. Outlier payments are included in PPS to limit hospitals' financial risks. These risks arise in part because of deficiencies in measuring case mix. Although it was expected that hospitals would incur losses on some cases and

realize profits on others, both random and systematic occurrences of costly cases may cause financial hardship for some hospitals.

Previous analyses by ProPAC and others have demonstrated that the number of outlier cases and the amount of payments are unevenly distributed across DRGs and hospitals. Further, the Commission's analysis of cases treated in specialty hospitals has demonstrated that payment inequities for these cases are largely due to problems with outlier payment policy.

ProPAC will devote significant resources to studying outlier payment policy, focusing on the basis for calculating outlier payments and the size of the outlier pool as a percentage of total PPS payments. The Commission will also examine the methods of funding outlier payments, the methods for setting outlier thresholds, the marginal cost factor, DRG-specific outlier set-asides, adequate payments for burn outliers, and the relationship between outlier payment policy and the indirect teaching and disproportionate share adjustments.

One of the more difficult issues in outlier payment is estimating the marginal cost factor used to calculate payments for outlier cases. Currently, there are no adequate measures of true marginal costs. ProPAC, therefore, has funded a major research project to study daily cost patterns for inpatient care. The study also will provide more information about the services provided throughout a hospital stay, the timing of those services, and the effect of varying lengths of stay on costs.

Payment Adjustments for Geographical Cost Differences

Data from Medicare Cost Reports indicate that, during the first three years of PPS, small rural hospitals were much more likely to have negative operating margins than their urban counterparts. This has raised concerns about a subgroup of rural hospitals that may be particularly vulnerable under PPS. Legislative changes have been enacted since the third year of PPS to help the financial position of rural hospitals. Despite these changes, some rural hospitals may continue to have problems under PPS. Legislative changes have been enacted since the third year of PPS to help the financial position of rural hospitals. Despite these changes,

some rural hospitals may continue to have problems under PPS.

The Commission is thus focusing analytic efforts on isolated hospitals that may be the only source of care for beneficiaries in rural areas. Using more recent data, ProPAC will examine the differences in costs between urban and rural hospitals. The Commission also will consider the criteria for defining Sole Community Hospitals. The analysis will determine which hospitals meet alternative criteria for SCH status and whether the SCH volume payment adjustments provide adequate financial relief to those with declining admissions.

ProPAC plans to examine the basis for the separate urban and rural standardized amounts. Congress, in the Omnibus Reconciliation Act of 1987, asked that ProPAC consider two major issues. The first is the feasibility, impact, and desirability of eliminating or phasing out separate urban and rural payment rates. The second issue concerns the desirability of maintaining separate payment rates for hospitals located in large urban areas.

The Commission will continue to monitor the Secretary's efforts to develop new labor market area definitions. ProPAC believes the current definitions are a fundamental flaw in the design of PPS. Current labor market areas fail to recognize the substantial wage differences between inner-city and suburban hospitals in urban areas. They also fail to account for wage differences in rural areas. Analytic efforts will focus on examining methods for developing a skill-mix adjustment to the area wage index. ProPAC also will study the feasibility and appropriateness of adjusting the non-wage-related portion of the adjusted standardized amounts. These adjustments would be based on area differences in hospitals' non-labor costs and input prices.

Variation in Resource Use and the Distribution of Payments

Variations in the use of procedures, hospitalizations, and other medical services have been well documented. These variations have not yet been explained adequately by population characteristics. Further, the extent to which unexplained variation reflects appropriate differences in medical practices or inefficient medical care remains unclear.

Work completed by ProPAC during the past year suggests that differences in medical practice may be a major contributor to the unexplained variation of resource use in the DRG system. This study of hospital-level variation in charges demonstrated that using currently available data refinements of the DRGs is unlikely to alter the distribution of payments to hospitals. Further, other research suggests that even if additional data were used to refine DRGs, the impact on aggregate payments would be limited.

During 1988, ProPAC will complete additional analyses of hospital resource use. These efforts will determine the extent to which resource use variation is due to different use of specific inpatient services, such as special care units and individual ancillary departments. In addition, the analyses will document the relationship between variation in costs and payments under PPS.

The Commission also plans to study regional variation in per-case treatment costs within specific surgical procedure groups and medical conditions. The effect of varying medical practice patterns on hospital costs will be examined for the selected procedures and conditions. This analysis will develop the groundwork for explaining the linkage between variation in resource use at the hospital level and variation in medical practice patterns.

Related analyses will study the effects of PPS on medical practice patterns. ProPAC is conducting a longitudinal analysis of trends in the concentration of specialized procedures. The study will examine the changes in hospital procedure volumes, costs, and operating margins from 1984 to 1986. ProPAC will estimate the effect of these changes on the number of hospitals performing these procedures.

IMPROVING THE DATA USED FOR ANALYZING PPS PAYMENTS

Timely and accurate cost data are critical for developing improvements to PPS, as well as for evaluating the effects of this system. Although PPS has shifted Medicare away from cost-based reimbursement, cost data are central to many of the analyses necessary for maintaining and evaluating the system. The Commission, for example, uses cost data to develop recommendations for updates to the PPS payment amounts, to study PPS pay-

ment adjustments, to simulate DRG recalibration using cost-based weights, and to calculate hospital-specific cost-to-charge ratios for outlier payments.

During 1987, HCFA significantly improved the timeliness of cost data. A sample of Medicare Cost Reports for the third year of PPS (primarily covering fiscal year 1986) was made available in June 1987. It essentially constituted the "early returns" sample recommended by ProPAC in its April 1987 report to the Secretary. Barring any major changes in the MCR, the relatively short time lag in data availability should continue. In this report, the Commission urges the Secretary to explore additional areas for improving the timeliness of cost data.

The accuracy and validity of cost report data continue to be more difficult to address. The cost report was designed solely to estimate costs for Medicare reimbursement purposes. Cost report data, therefore, may not fully reflect the actual costs of treating Medicare patients. Estimating costs from the MCR is complicated by accounting and management strategies that vary across hospitals and over time. These include hospital step-down allocation methods, pricing strategies, and apportionment of costs between Medicare and other payers.

The Commission sponsored a preliminary effort to assess the accuracy of data from the MCR. A survey of fiscal intermediaries and hospital administrators provided some broad perceptions on the accuracy of cost data under PPS. Results indicate that although PPS has broken the link between the MCR and Medicare payment, the quality of the cost data has not changed. The data, however, still reflect techniques hospitals used to maximize cost-based reimbursement. They indicate some new incentives as well, such as more complete reporting of costs for PPS pass-throughs and outpatient department services. (The results of this work are summarized in Technical Appendix A.)

ProPAC plans to conduct additional analyses on the adequacy of MCR data for specific purposes. The Commission also is developing a longitudinal data base linking MCRs from 1981 through the third year of PPS. This data base will be used to analyze costs before and after PPS implementation. Analyses will focus on changes in per-case costs, ancillary cost-to-charge ratios, and the

relationship between per-case costs and the case-mix index over time.

HOSPITAL BEHAVIORAL RESPONSES TO PPS

PPS and other forces in the health care industry have changed the way hospitals deliver care to Medicare beneficiaries. Indications of such changes can be evaluated through cost report or patient billing data, as discussed earlier. The Commission also evaluates these changes by examining the hospital industry more directly. Because hospital behavioral changes could affect both cost and quality of care, ProPAC will continue to expand its study of these changes.

Management Strategies

Managerial strategies alter the structure or the process of care in various ways to respond to the incentives of the payment method. These strategies affect both the circumstances under which care is delivered and the resources made available for patient care. ProPAC will examine the changes in the structure and process of patient care by focusing on three major factors: hospital staffing, the structure of the industry, and the sensitivity of hospitals to the DRG prices.

Staffing—Hospitals have reduced the size of their inpatient work force since the implementation of PPS. Inpatient FTEs declined by 2.1 percent from 1983 to 1986. Inpatient FTEs per admission, however, increased by 0.8 percent during this period. These trends may reflect hospitals' inability to respond quickly to declining admissions. In addition, hospitals may not be able to reduce inpatient FTEs per admission due to increasing patient severity.

ProPAC will investigate these staffing trends, focusing on how the function, numbers, and organization of hospital employees have changed. Research will emphasize understanding how and why staffing changes differ across hospitals. The Commission will examine information on the extent to which changes are attributable to PPS and prospective pricing instituted by other payers. These data will be used to infer the potential effects of staffing changes on hospitals, hospital employees, the Medicare program, and its beneficiaries.

Structure of the Industry—Until recently, most health care was provided by single entities like hospitals, physicians, clinics, and nursing homes. Facing new market pressures, however, the structure of the health care industry is changing. Particularly notable are vertical and horizontal integration strategies. These are strategies in which hospitals expand to provide similar services or related services covering other phases and levels of care. Little is known about the effects of these strategies on the Medicare program and its beneficiaries.

ProPAC is undertaking an investigation of alternative vertical and horizontal integration strategies and the effects of each on the overall structure of the hospital industry. The study will look at existing data on the prevalence of such strategies in the health care industry. The Commission will review alternative corporate governing and decision-making structures. The legal and financial implications of these alternative approaches, including consequences for Medicare payments to hospitals, will be explored. Finally, the study will address the hospitals' objectives in adopting these integration strategies.

DRG Price Sensitivity—The extent to which hospitals are sensitive to variations in DRG prices is an important component of the relationship between prospective pricing incentives and hospital behavioral changes. ProPAC will identify the extent and objectives of hospital strategies to concentrate in or discontinue selected services. The analysis will assess whether these strategies are a direct response to variations in the DRG prices or other factors influencing hospital management. The role of product-line management and service costing in hospitals' responses to DRG price variations also will be examined. ProPAC will use this information to examine changes in the provision of hospital services over time. Any trends in the adoption or discontinuation of services since the introduction of PPS will be identified.

Responses to the Continuation of the Capital Cost Pass-Through

Capital continues to be reimbursed on a pass-through basis. Paying for capital in this manner—while operating costs are paid under a prospective system—has given hospitals economic incentives

to substitute capital for operating costs. Some hospitals may have responded to the incentives by actually increasing their capital investments. Others may have attempted to maximize Medicare reimbursement by changing their accounting strategies so that more costs are classified as capital. Indeed, it is uncertain whether part of the 11.5 percent annual growth rate in capital costs since PPS implementation is attributable to these kinds of behavioral changes. Under current policy, payments were reduced below costs for 1987 through 1989. This policy may thus lessen the effect of the incentives.

ProPAC will examine the impact of the dual capital-operating cost payment system. Medicare cost report trend data will provide descriptive information on changes in hospital investment behavior. The study will examine, for example, changes in the relative capital costs of ancillary departments compared with their total costs. From this, ProPAC will draw general conclusions about the effects of the incentives inherent in the dual payment method.

In addition, ProPAC will study the relationship between capital costs and occupancy. This information will support Commission judgments on the feasibility and appropriateness of linking capital payments to hospital occupancy rates. This study is in response to a congressional mandate in the Omnibus Budget Reconciliation Act of 1987.

SHIFT OF SERVICES FOR AN EPISODE OF CARE

There have been major shifts in the site of health care service delivery since the implementation of PPS. Two phenomena are largely responsible. First, medical or surgical procedures that were performed in inpatient hospital facilities are being shifted to ambulatory settings, eliminating hospital admissions. This trend began well before the implementation of PPS. Second, services that used to be provided as part of a hospital admission increasingly are delivered before or after the hospital stay in an ambulatory setting. This trend is associated with declining lengths of stay that can, in part, be attributed to the incentives of PPS.

These major changes in site of care have raised many questions about total costs, quality of care, and beneficiary access to services. Further, the

extent and nature of site-of-care shifts may vary across beneficiary groups and hospital types. It is difficult to explore these issues because available data are inadequate to investigate services provided throughout an entire episode of care. For certain service delivery sites there are neither data nor plans to develop sources of data. ProPAC is interested in these issues because of the critical role PPS is playing in these changes even though they involve outpatient service settings.

PPS incentives to shift services out of the inpatient hospital setting affect beneficiary out-of-pocket spending. The Commission has examined illustrative examples of typical cases. ProPAC determined that beneficiary cost-sharing responsibilities for the facility charges are usually less for outpatient surgery than for the same surgery performed in an inpatient setting. This would probably be true for medical treatment performed in the outpatient setting as well. On the other hand, when beneficiaries are treated as inpatients, but discharged earlier for further treatment, they must bear the cost of coinsurance for additional facility charges, thus increasing total liability.

Many questions remain about the effects of site-of-care shifts on total health care costs. While such shifts could reduce costs for inpatient care, they may increase the total costs over an episode of care. These changing cost patterns may vary across types of procedures, DRGs, or various beneficiary groups. The quality of care also may be affected by the shifts in site of care.

Finally, beneficiary access to appropriate services, particularly because patients are being discharged from hospitals earlier, needs to be assessed and monitored. Post-hospitalization services may not be available to some beneficiaries, either because they are not provided in a particular area or because the beneficiaries cannot afford them.

One of the Commission's major priorities in the coming year is to better understand the cost, quality, and access to services throughout an entire episode of care. To do this, beneficiary-level data on an entire episode of care are needed. These data would include utilization and costs of services covered under both Medicare Part A and Medicare Part B.

Because of the importance of these issues and the clear need for more and better data, ProPAC is initiating a major data development effort to merge Medicare Part A and B files. The Commission is carefully monitoring other organizations' efforts to produce similar data bases and will collaborate on these efforts if possible. The development of a linked data base is the first stage of several specific analytic activities ProPAC plans to undertake. These include examinations of particularly vulnerable beneficiary groups and variations in medical practice patterns.

A related effort will examine benefit changes in the Medicare program since 1980 by reviewing statutory, regulatory, and administrative changes. These benefit changes affect utilization and costs, so they will be important to understand in analyses of changes in services provided throughout an episode of care.

BENEFICIARY ACCESS AND QUALITY

Beneficiary access to health care, and the quality of that care, continue to be among the most important issues facing the Medicare program. To assess PPS fully, methods are needed that accurately measure and assess changes in access and quality of care. Additional methods are necessary to identify what has caused these changes—for example, specific provider practices, features of PPS, or other factors.

Ensuring beneficiary access to high-quality care has always been one of the Commission's major priorities. All analyses and policy recommendations are undertaken considering their potential effects on quality of care. One of the major objectives of ProPAC's work on variations in resource use, for example, is to assess how these variations affect quality of care. The studies of hospitals' behavioral responses to PPS also will examine potential effects on quality of care. In addition, ProPAC will look at specific activities that may compromise quality of care. It will also identify specific populations that may be particularly vulnerable to declines in quality of care. The Commission will continue to use existing data to investigate particular characteristics of the process of care in light of its concerns about quality.

Studies of beneficiary access and quality require considerable time and financial resources. To conserve and focus the Commission's resources, therefore, ProPAC will continue to monitor research conducted by other organizations. The Institute of Medicine of the National Academy of Sciences recently launched a major assessment of quality of care mechanisms under the Medicare program. This congressionally mandated study may become the basis of critical public policy discussions and actions on beneficiary access and quality of care. The study will provide important information that the Commission will consider in its deliberations.

Measuring the Quality of Inpatient Care

As its focus shifts to the broader effects of PPS, the Commission has intensified its attempts to use health outcomes to measure quality of care, although data inadequacies continue to limit these efforts. Only very crude outcome statistics, such as mortality and readmission rates, are available. Findings based on these data are incomplete and difficult to interpret.

The Commission believes that mortality statistics are an important source of information about quality of care. Further technical and statistical analysis, however, is needed to refine the methodology for calculating mortality statistics. In particular, data need to be adequately adjusted for severity of illness. The Commission thus plans to complete a preliminary study of the effects of within-DRG patient severity on mortality statistics. Information from this study will supplement data HCFA is gathering on this issue.

Changes in readmission rates over time may provide additional empirical evidence about how hospital responses to the incentives of PPS affect quality of care. The Commission is analyzing rates of readmission during the first three years of PPS. This study will document overall changes in readmission rates for beneficiaries in all DRGs as well as for specific groups of DRGs. In addition, readmission rates will be compared across various hospital types.

Although the currently available outcome measures of quality of care are limited, there is a significant amount of data that can provide descriptive information about the quality of care

provided to Medicare beneficiaries. ProPAC will continue its analysis of vulnerable beneficiary groups that may be at a greater risk of adverse health outcomes if quality of care declines. The groups are defined by diagnosis, age, and income status. For these vulnerable groups, ProPAC will document longitudinal patterns of inpatient resource use, including length of stay, total charges, and mortality and readmission rates. This descriptive information will be useful in understanding the changing hospital stay and identifying areas needing further research.

Measuring the Quality of Non-Inpatient Care

As more of the beneficiary's care is provided outside the hospital, ProPAC will broaden its examinations of quality of care to incorporate these other settings. The Commission will continue to devote a significant portion of its resources to examining the structure and process of the care provided throughout an episode of care. Two such efforts are described below.

Transitional Care—The Commission's major study of post-acute, or transitional, care is in its second year. This study was initiated to examine the provision of post-acute care in hospital settings. A national survey and series of case studies were designed to define transitional care, measure its prevalence and distribution, and examine the cost and quality of care implications for this level of care.

Preliminary findings from the study's survey and from several case studies are summarized in Technical Appendix C. During 1988, the Commission will complete this analysis and consider additional research suggested by the results.

Shift of Inpatient Care to Outpatient Settings—Consistent with the incentives of PPS and PRO activities, service delivery is increasingly being shifted to outpatient settings. Unlike the problems associated with post-acute care, this shift of site

may affect beneficiaries who are not hospitalized. It is important, therefore, to begin developing data bases to document the magnitude of the shift and to characterize the patients now treated in outpatient settings.

The Commission has developed several research strategies for addressing this issue. As described earlier, ProPAC is developing a data base that links hospital and outpatient services by beneficiary. The Commission will use these and other data to document changes in volume and costs for several procedures provided in the inpatient and outpatient setting. ProPAC will compare, by service setting, the health outcomes and severity of illness of patients undergoing these procedures.

The Commission will also study hospital outpatient services that are not necessarily provided during an episode of care that includes hospitalization. The Omnibus Reconciliation Act of 1987 instructed ProPAC to advise the Secretary on the payment system for ambulatory surgery and non-surgical outpatient services furnished by hospitals. Initially, ProPAC will examine available MCR data to describe the cost and use of these services across hospitals.

Perceptions of Quality of Care

Beneficiaries' and providers' perceptions of quality are important sources of information. ProPAC considers these perceptions in assessing changes in quality, identifying particular problem areas, and determining research needs. The Commission systematically reviewed anecdotal evidence and perceptions related to quality of care in 1986. Besides identifying areas that were most sensitive to changes in quality of care, the study helped ProPAC refine its research agenda for this issue. The Commission worked closely with the American Association of Retired Persons (AARP), which is continuing analyses and studies on this topic. ProPAC will monitor AARP's efforts and will review the information developed through its studies.

Report Appendix

Report Appendix

BIOGRAPHICAL SKETCHES OF COMMISSIONERS

Stuart H. Altman, Chairman

Stuart H. Altman, dean of the Florence Heller Graduate School for Social Policy, Brandeis University, and Sol C. Chaikin Professor of National Health Policy, is an economist whose research interests are primarily in the area of Federal health policy. He has been at Brandeis since 1977. Between 1971 and 1976, Dean Altman was deputy assistant secretary for planning and evaluation/health at the Department of Health, Education and Welfare (now the Department of Health and Human Services). In that position, he was one of the primary contributors to the development and advancement of the National Health Insurance proposal. From 1973 to 1974, he also served as the deputy director for health of the President's Cost of Living Council, where he was responsible for developing the council's program on health care cost-containment. Formerly, Dean Altman taught at Brown University and at the University of California (Berkeley). He is a member of the Institute of Medicine of the National Academy of Sciences and former member of its governing council; a member of the board of Beth Israel Hospital (Boston); chairman of the board of the Health Policy Center at Brandeis; and president of the National Foundation for Health Services Research. He is a past president of the National Association for Health Services Research and former board member of the Robert Wood Johnson Clinical Scholars Program. Dean Altman also served on the President's Commission for a National Agenda for the Eighties. A member of several editorial boards, he has published extensively on various aspects of health care and public policy. His publications include: the Arthur Weissman Memorial Lecture, "Will the Medicare Prospective Payment System Succeed? Technical Adjustments Can Make the Difference"; *Federal Health Policy: Problems and Prospects*, with Harvey M. Sapolsky; *Ambulatory Care: Problems of Cost and Access*, with Joanna Lion and Judith LaVor Williams; "Financing Hos-

pital Care: An Uncertain Future," *Journal of Health Administration and Education*, Winter, Vol. 3, No. 1, 1985; "The Impact of Cost Shifting on the Health Care System," in *Health Care Commentary*, Health Insurance Association of America; and "The Growing Physician Surplus: Will It Bankrupt or Benefit the U.S. Health System?" in *In Search of a Public Policy*, edited by Eli Ginzberg and Miriam Ostow. Dean Altman received both an M.S. and a Ph.D. in economics from the University of California (Los Angeles).

Harold A. Cohen

Harold A. Cohen is a health services consultant and a lecturer in the Department of Health Care Organization of The Johns Hopkins University. He has been with the university since 1972. From 1972 to 1987, he was the executive director of the Health Services Cost Review Commission of the state of Maryland. Before that, he was on the economics faculty of the University of Georgia. Dr. Cohen has been a leader in the development and administration of state-level cost review and rate-setting efforts. He is a member of the American Economic Association, the Southern Economic Association, the Western Economic Association, the American Public Health Association, and the Health Economic Research Organization. Dr. Cohen is the author of numerous professional publications, including "The Financing of Coronary Artery Bypass Surgery," *Circulation*, November 1982; "Case Mix and Regulation," in *Topics in Health Care Financing: Diagnostic Related Groups*, Summer 1982; "Evaluating the Cost of Technology," in *Health Care in the 1980s*, 1979; "Controlling Medicaid Expenditures by General Price Controls," in *The Medicaid Crisis: What States Can Do in the 1980s*, 1982; and "A Model for Resolving Planning Rate Setting Conflict," with Carl J. Schramm, Ph.D., J.D., in *A New Approach to the Economics of Health Care*, 1982. He holds an M.A. and a Ph.D. in economics from Cornell University, and received a bachelor's degree from Harpur College (now the State University of New York at Binghamton).

Carolyne K. Davis

Carolyne K. Davis is national and international health care adviser to Ernst & Whinney. She also serves on the board of directors of Beverly Enterprises and SmithKline Beckman. Dr. Davis was administrator of the Health Care Financing Administration (HCFA), Department of Health and Human Services, from 1981 to 1985—the first woman to hold this post since the agency's creation in 1977. Under her tenure, the Medicare prospective payment system was implemented. Dr. Davis was associate vice president for academic affairs at the University of Michigan from 1975 to 1981. During that time, she also served on the board of directors of The Johns Hopkins University. Previously, she was dean of the School of Nursing at Michigan, while holding professorships in nursing and education. She also chaired the Baccalaureate Nursing Program at Syracuse University, where she held an associate professorship of nursing. Before moving into the academic community, Dr. Davis was a clinical nurse. She has published numerous articles and research documents dealing with a wide variety of issues in health care. Her other professional activities have included president and board member of the International Health Economics Management Institute, as well as board member of *Nursing Economics* and the National League for Nursing. Dr. Davis received a nursing degree from The Johns Hopkins University and a master's in nursing education and a Ph.D. in administration from Syracuse University. She holds four honorary doctoral degrees.

Curtis C. Erickson

Curtis C. Erickson is president and chief executive officer of Great Plains Health Alliance, Inc., a post he has held since 1959. He was that organization's assistant director from 1955 to 1959. Having served the American Hospital Association (AHA) in many capacities, he became chairman of Regional Advisory Board 6 and a trustee in 1987. He has also chaired AHA's advisory panel to the Center for Small or Rural Hospitals and has been a member of the Council on Management, the Council on Federal Relations, and a representative to the House of Delegates. President of the Lutheran Hospital Association of America from 1974 to 1975, Mr. Erickson was also on the board of trustees from 1972 to 1982. He was president of the Kansas Hospital Association from 1965 to

1966, a member of the board of governors of the Healthcare Stabilization Fund for the Kansas Department of Insurance, and past district governor of Rotary International. From 1983 to 1986, Mr. Erickson served on the Robert Wood Johnson Foundation's National Advisory Committee for the Rural Hospital Program of Extended Care Services. Mr. Erickson is a member of the American College of Healthcare Executives. From 1951 to 1955, he served in the U.S. Air Force. He received a B.S. in business administration from Fort Hays Kansas State University in 1951.

William D. Fullerton

William D. Fullerton is an adjunct associate professor in the School of Medicine, University of North Carolina at Chapel Hill. From 1978 to 1984, he was principal and president of Health Policy Alternatives, Inc., where he is now a part-time consultant. The first deputy administrator of the Health Care Financing Administration (1977–78), Mr. Fullerton was also a special consultant to the Secretary of the Department of Health, Education and Welfare. He served as chief of the professional health staff, Committee on Ways and Means, U.S. House of Representatives, from 1970 to 1976. Mr. Fullerton was the first executive secretary of the Health Insurance Benefits Advisory Council in 1965–66. Before that, he held various positions in the Social Security Administration. He is a member of the Institute of Medicine of the National Academy of Sciences. Mr. Fullerton received a B.A. from the University of Rochester.

B. Kristine Johnson

B. Kristine Johnson is vice president, corporate affairs and a member of the senior management council of Medtronic, Inc. Joining the company in 1982 as director of public affairs, she subsequently served as vice president, public affairs and vice president, U.S. national accounts/customer marketing. She assumed her post in 1987. Prior to that, Ms. Johnson was an executive of Cargill, Inc. She is a former chair of the health care financing committee and government affairs section of the Health Industry Manufacturers Association (HIMA). A member of the University of Minnesota Hospital board, Ms. Johnson chairs its planning and development committee. She received a B.A. from Saint Olaf College and served on the college's board of regents from 1973 to 1986.

Sheldon S. King

Sheldon S. King is president of Stanford University Hospital and a clinical associate professor in the Department of Community, Family, and Preventive Medicine at Stanford's School of Medicine. From 1981 to 1985, he served simultaneously as the hospital's executive vice president and director as well as the medical school's associate vice president for medical affairs. Mr. King was also director of hospitals and clinics, University Hospital, University of California Medical Center, from 1972 to 1981. He was executive director of the Albert Einstein College of Medicine from 1968 to 1972, and held various positions at Mount Sinai Hospital from 1957 to 1968. Mr. King was chairman of the administrative board of the Council of Teaching Hospitals of the Association of American Medical Colleges. Besides serving in the House of Delegates of the American Hospital Association, he is chairman of the advisory board of the American Board of Internal Medicine. Mr. King is a Fellow of the American College of Health Care Executives, the American Public Health Association, and the Royal Society of Health. His publications include the "Impact of Competition and Cost Containment in the University Hospital," *American Journal of Cardiology*, August 1985. Mr. King received an A.B. from New York University and an M.S. from Yale University.

Barbara J. McNeil

Barbara J. McNeil is professor of radiology at Harvard Medical School, Brigham and Women's Hospital, and professor of clinical epidemiology, Harvard Medical School. She is also director of the Center for Cost-Effective Care, Brigham and Women's Hospital, and deputy director for Residency Training, Joint Program in Nuclear Medicine, Harvard Affiliated Hospitals. Dr. McNeil is a member of the Harvard-MIT Division of Health Sciences and Technology. Her professional and advisory activities are extensive. She serves on the board of trustees of the Society for Medical Decision Making. Dr. McNeil is a member of the joint committee of the American College of Radiology, the Association of University Radiologists, and the Society of Chairmen of Academic Radiology. She is also a member of the Fleischner Society, the Institute of Medicine of the National Academy of Sciences, and the National Council on Radiation Protection and Measurements. She serves on the

American College of Radiology's committees on nuclear radiology and on quality assurance and efficacy. Formerly, Dr. McNeil was on the board of the Association for Health Services Research, the policy council of the Association for Public Policy Analysis and Management, and a member of the National Council on Health Care Technology. She has written five books and more than 150 professional articles and reports. Dr. McNeil has an A.B. in chemistry from Emmanuel College, an M.D. from Harvard Medical School, and a Ph.D. in biological chemistry from Harvard University.

Kathryn M. Mershon

Kathryn M. Mershon is vice president, nursing, at Humana, Inc., a position she has held since 1980. She holds an adjunct assistant professorship of nursing at Spalding University. From 1971 to 1980, Ms. Mershon was associate executive director—nursing at St. Joseph Infirmary (now Humana Hospital Audubon) in Louisville, Kentucky. Before that, she was a clinical nursing specialist at St. Joseph Infirmary, clinical instructor at St. Francis Xavier Hospital School of Nursing, and a staff nurse. She has a distinguished list of professional and community activities, including board of governors of the Federation of American Health Systems, board member of the National League for Nursing, and editorial review board of *Nursing & Health Care*. She is a former trustee of Spalding University and member of the advisory board of the University of Louisville's School of Nursing. Ms. Mershon also served on the Louisville Board of Health and on the board of governors of Louisville General Hospital. She has made numerous public presentations on a variety of nursing-related issues. Her recent publications include: "Some Myths Pertaining to For-Profit Health Care," *Nursing Economics*, September/October 1986, and "Nurses and the Health Cost Crisis: A Strategic Approach to the Challenge," *Orthopaedic Nursing*, January/February 1985. Ms. Mershon received a B.S. in nursing from Spalding University and an M.S. in nursing from St. Louis University.

James J. Mongan

James J. Mongan is the executive director of the Truman Medical Center, Kansas City, Missouri, and dean of the University of Missouri-Kansas City School of Medicine. He holds professorships in the School of Medicine and the School of Business and Public Administration at the University

of Missouri-Kansas City. From 1979 to 1981, he was the associate director for health and human resources, Domestic Policy Staff, the White House. Dr. Mongan served as deputy assistant secretary for health policy at the Department of Health, Education and Welfare from 1977 to 1979, and was the Secretary's special assistant for National Health Insurance. For seven years before that, he was a professional staff member of the Committee on Finance, U.S. Senate. Dr. Mongan is a member of the board of trustees of the American Hospital Association and a member of the House of Delegates. He is on the board of the Council of Teaching Hospitals of the American Association of Medical Colleges and a member of the advisory committee for the Robert Wood Johnson Foundation's Program for Prepaid Managed Health Care. Dr. Mongan received his A.B. and M.D. from Stanford University.

Eric Muñoz

Eric Muñoz is head of the research division of the department of surgery at the Long Island Jewish-Hillside Medical Center, and assistant professor of surgery at the State University of New York at Stony Brook. He has been an instructor at the Yale University School of Medicine and New York Medical College. Dr. Muñoz is nationally recognized for his research on the DRG payment mechanism, which has focused on the higher costs of emergency hospital admissions. He is also a specialist on problems of health care delivery to the poor. Dr. Muñoz was president of the American Association of Puerto Rican Scientists and served on the board of that organization. His other numerous professional affiliations include Fellow of the American College of Surgeons, the Association for Academic Surgery, and the International Health Economics and Management Institute. He is certified by the American Board of Surgery. Dr. Muñoz has published more than 30 articles on health care costs. He received a B.A. in psychology from the University of Virginia, an M.D. from the Albert Einstein College of Medicine, and an M.B.A. in finance and economics from Columbia University. Dr. Muñoz trained in general and peripheral vascular surgery at Yale University.

John C. Nelson

John C. Nelson is a practicing obstetrician and gynecologist in Salt Lake City, Utah. He has been

involved in cost-containment efforts at local and state levels and is active in the American Cancer Society as well as numerous other medical and civic efforts. A member of the American Medical Association, Dr. Nelson is the delegate from Utah and serves on the work group on evaluation, assessment, and control—Health Policy Agenda for the American People. He is a delegate to the Utah State Medical Association House of Delegates, and serves on the editorial board of the *Utah Medical Bulletin* as well as on the board of the Utah Health Cost Management Foundation. Dr. Nelson is also a member of the board of the Utah Professional Review Organization and the governor's Select Advisory Committee on Child Abuse and Neglect. He is former director of cost-containment for Blue Cross/Blue Shield of Utah. Dr. Nelson took his internship at the Providence Hospital in Portland, Oregon, and a residency with the Department of Obstetrics and Gynecology at the University of Utah. He is board-certified by the American Board of Obstetrics and Gynecology, and a Fellow of the American College of Obstetrics and Gynecology. He received his bachelor's degree in zoology from Utah State University and his M.D. from the Utah College of Medicine.

Leonard D. Schaeffer

Leonard D. Schaeffer is president and chief executive officer of Blue Cross of California. He came to Blue Cross from his position as president of Group Health, Inc. Mr. Schaeffer was formerly executive vice president and chief operating officer of the Student Loan Marketing Association. He served as administrator of the Health Care Financing Administration, Department of Health and Human Services, and as assistant secretary for management and budget in the Department of Health, Education and Welfare. Before that, Mr. Schaeffer was vice president of Citibank, N.A. He has held various positions with the state of Illinois, including director of the Bureau of Budget, head of the State Planning Office, chairman of the Illinois Capital Development Board, and deputy director for management, Illinois Department of Mental Health and Developmental Disabilities. He was previously vice president of a private investment banking firm, and a consultant for Arthur Andersen & Company. A Kellogg Fellow, Mr. Schaeffer was also on the executive committee of both the

National Cooperative Business Association and the Minnesota Coalition on Health Care Costs. He was graduated from Princeton University.

Steven A. Schroeder

Steven A. Schroeder is the chief of the Division of Internal Medicine and professor of medicine, Department of Medicine at the University of California at San Francisco (UCSF), where he is also a member of the Institute for Health Policy Studies. He is a practicing general internist and an attending physician at UCSF hospitals. Dr. Schroeder joined the UCSF Department of Medicine as an associate professor in 1976. In 1982-83, he was a visiting professor in the Department of Community Medicine of St. Thomas' Hospital Medical School, London. He was on the faculty of George Washington University Medical Center (GWU) from 1971 to 1976, and served as medical director of the GWU Health Plan from 1972 to 1976. Dr. Schroeder is a diplomate of the American Board of Internal Medicine and a Fellow of the American College of Physicians. A member of the National Academy of Sciences' Institute of Medicine, he chairs the current Institute study panel that is evaluating Medicare program quality of care activities. He serves on the editorial boards of several journals, and is a consultant and adviser to numerous organizations, including the Association of American Medical Colleges, the Department of Health and Human Services, and the Robert Wood Johnson Foundation. He is current director of the Pew/Rockefeller program, Health of the Public: An Academic Challenge, and is past president of the Society for Research in Primary Care Internal Medicine. Dr. Schroeder has published extensively on topics such as primary care, medical technology, preventive medicine, iatrogenesis, and physician reimbursement as well as clinical topics. He co-edits the clinical textbook *Current Medical Diagnosis and Treatment*. He received a B.A. from Stanford University and an M.D. from Harvard Medical School.

Bert Seidman

Bert Seidman has been the director of the Department of Occupational Safety, Health and Social Security of the AFL-CIO, Washington, D.C., since 1983. From 1962 to 1966, he was the AFL-CIO European economic representative stationed in Paris

and then in Geneva. Before that, he served for 14 years as an economist in the research department of the AFL and the AFL-CIO. In 1966, he became director of the AFL-CIO Social Security Department. He was a member of the U.S. labor delegation to the annual conference of the International Labor Organization (ILO) from 1958 to 1976 and, from 1972 to 1975, was a member of the ILO governing body. In 1973 and 1974, he was the U.S. worker delegate to the ILO conference. He has served on numerous committees, including the Federal Advisory Council on Employment Security, the Advisory Council on Health Insurance for the Disabled, the Task Force on Medicaid and Related Programs, the Advisory Council on Social Security, the Federal Hospital Council, the Health Insurance Benefits Advisory Council, the Blue Cross Advisory Committee, and the 1981 White House Conference on Aging (the Advisory Committee and chairman of the Technical Committee on Retirement Income). At present, he is a member of the HMO Industry Council, the Brookings Institution Advisory Panel on Long-Term Care, and the National Advisory Committee to the Robert Wood Johnson Foundation on Community Programs for Affordable Health Care. He is on the board of the National Council of Senior Citizens and the National Council on Aging, and is a vice president of the National Consumers League.

Jack K. Shelton

Jack K. Shelton is manager of the Employee Insurance Department of the Ford Motor Company, which he joined in 1956. He is responsible for the financial control and analysis of nearly all employee benefit plans. In this capacity, he participates in union negotiations, relations with insurance carriers, and financial control of company-administered plans. He also reviews changes in wage and benefit programs for foreign subsidiaries. Mr. Shelton is actively involved in a number of local and national health care organizations, serving as a director of the National Fund for Medical Education, a director of Blue Cross and Blue Shield of Michigan, and a member of the Statewide Health Coordinating Council of Michigan. In 1985, he was a member of an Office of Technology Assessment Advisory Panel on Alternative Physician Payments for Medicare and chairman of the Employer Prospective Payment Advisory Commission for the Washington Business Group on Health. He is past

chairman of the National Industry Council on HMO Development, the Michigan Health Economics Coalition, the Michigan Hospital Capacity Reduction Corporation, and the Health Alliance Plan (Michigan's largest HMO). Mr. Shelton received his B.S. and M.S. degrees in industrial psychology from Oklahoma State University.

Bruce C. Vladeck

Bruce C. Vladeck is president of the United Hospital Fund of New York. Immediately before joining that organization, Dr. Vladeck was assistant vice president of the Robert Wood Johnson Foundation. From 1979 to 1982, he was assistant commissioner for health planning and resources development of the New Jersey State Department of Health. In that position, he was director of the State Health Planning and Development Agency, where he oversaw the implementation of New Jer-

sey's all payer, DRG-based hospital prospective payment system. Dr. Vladeck taught for four and one-half years at Columbia University, and has served on the adjunct faculty of Rutgers, Princeton, the College of Medicine and Dentistry of New Jersey, and New York University. He is the author of *Unloving Care: The Nursing Home Tragedy*, and has written numerous articles and book chapters on health policy, health care finance, and health politics. He is a member of the New York State Council of Health Care Financing, the Institute of Medicine of the National Academy of Sciences, and various national advisory committees of the Robert Wood Johnson Foundation. Dr. Vladeck, who is a Fellow of the New York Academy of Medicine, also serves on the board of the Association for Health Services Research. He received his bachelor's degree in government from Harvard College, and his M.A. and Ph.D. in political science from the University of Michigan.

PROSPECTIVE PAYMENT ASSESSMENT COMMISSION POLICY STATEMENT

Responsibilities—The Prospective Payment Assessment Commission (ProPAC) has two major responsibilities. First, it recommends annually to the Secretary of the Department of Health and Human Services the appropriate annual percentage change in payment for hospital inpatient discharges. The Commission is to report its recommendations to the Secretary by March 1st of each year. Second, it consults with and recommends to the Secretary needed changes in the diagnosis-related group (DRG) classification (e.g., new DRGs, modifications to existing DRGs) and in the relative weighting factors of the DRGs. In addition, the Commission is required to report to the Congress its evaluation of any adjustments made by the Secretary regarding the DRG classification and weighting factors.

In making its recommendations, the Commission will consider the hospital market basket, hospital productivity, technological and scientific advances, quality of care, and long-term cost-effectiveness of services. In order to carry out its responsibility to identify medically appropriate patterns of health resources use, the Commission is required to collect and assess information on regional variations in medical practice; length of hospitalization; and the safety, efficacy, and cost-effectiveness of new and existing medical and surgical procedures, practices, services, and technologies. While the Commission will use existing information where possible, it will also use its research authority to award grants or contracts where existing information is inadequate.

The Commission shall focus primarily on the two responsibilities cited above. Other responsibilities will be pursued to the limit of available staff and resources. The Commission will also monitor executive and legislative branch actions in regard to other areas.

Relationship to the Public—The Commission welcomes and encourages constructive relations with the public. Its meetings will be open, and it will maintain a mailing list, to the extent its funds allow, in order to keep the interested public informed of its activities and meetings.

Intramural and extramural analytic documents prepared for the Commission will be made publicly available on a case-by-case basis. Generally, final reports will be made available as part of a Technical Report Series. As a rule, technical reports will be distributed without charge to any requesting party.

The Commission encourages consumers, hospitals, physicians, business firms, and other individuals and groups to submit information, preferably in writing, with respect to medical and surgical procedures, services, practices, and technologies or other information relevant to the Commission's responsibilities. The Commission will consider this information in making reports and recommendations to the Secretary and the Congress.

However, it is extremely important to remember that the Commission is not an appeals body. It has no appeals functions or regulatory powers. The information accompanying an appeal may be used as data on system-level trends.

COMMISSION STRUCTURE, ASSIGNMENTS, AND MEETING DATES

Structure and Assignments

Subcommittee on Data Development and Research

The subcommittee is charged with identifying data needs and availability of data sources relevant to the Commission's responsibilities. In consultation with interested persons and experts, the subcommittee will analyze issues related to data needs, sources, and availability. It will also examine the strengths and weaknesses of the data and will report its findings to the full Commission. Where data are needed but unavailable, the subcommittee will present options and recommendations for data development for presentation to the Commission.

Subcommittee on Hospital Productivity and Cost-Effectiveness

The subcommittee is charged with identifying and examining procedures and issues related to the measurement of productivity and cost-effectiveness, including an examination of the hospital market basket and related variations in the provision of hospital services. In consultation with interested persons and experts, the subcommittee will analyze issues related to hospital productivity and cost-effectiveness and will present its findings, including options and recommendations, to the full Commission.

Subcommittee on Diagnostic and Therapeutic Practices

The subcommittee is charged with identifying and examining technological and scientific advances, changing treatment patterns, and quality of care issues. The subcommittee is also responsible for examining the safety, efficacy, and relative cost-effectiveness of medical and surgical procedures, services, and technologies as they relate to the Commission's primary responsibilities. In consultation with interested persons and experts, the subcommittee will analyze issues related to the assessment of new and existing procedures, services, and technologies. It will present its findings, including options and recommendations, to the full Commission.

Members

Steven A. Schroeder, *Chair*
 Harold A. Cohen
 Carolyne K. Davis
 Barbara J. McNeil
 Eric Muñoz
 Bruce C. Vladeck

Members

Harold A. Cohen, *Chair*
 Curtis C. Erickson
 Kathryn M. Mershon
 James J. Mongan
 Leonard D. Schaeffer
 Bert Seidman
 Jack K. Shelton
 Bruce C. Vladeck

Members

Barbara J. McNeil, *Chair*
 Carolyne K. Davis
 William D. Fullerton
 B. Kristine Johnson
 Sheldon King
 Eric Muñoz
 John C. Nelson
 Steven A. Schroeder

Meeting Dates

Subcommittee on Data Development and Research

June 24, 1987
September 16, 1987
October 28, 1987

Subcommittee on Hospital Productivity and Cost-Effectiveness

May 13, 1987
June 23, 1987
September 15, 1987
October 27, 1987
December 8, 1987
January 12, 1988

Subcommittee on Diagnostic and Therapeutic Practices

May 13, 1987
June 23, 1987
September 15, 1987
October 27, 1987
December 8, 1987
January 12, 1988

Prospective Payment Assessment Commission

May 13, 1987
June 24, 1987
September 16, 1987
October 27-28, 1987
December 8-9, 1987
January 13, 1988
February 2, 1988

STATUTORY MANDATE OF THE COMMISSION

Congress established the Prospective Payment Assessment Commission (“ProPAC”) in Pub. L. 98-21 (the Social Security Amendments of 1983) on April 20, 1983. The current responsibilities of ProPAC are set forth in Section 1862(a) and Section 1886 of the Social Security Act, amended through 1987. Further responsibilities are set forth in various conference reports. The passages of the relevant legislative sources follow.

Section 1886(d)(4)(C) and (D) of the Social Security Act

(C) The Secretary shall adjust the classifications and weighting factors established under subparagraphs (A) and (B), for discharges in fiscal year 1988 and at least annually thereafter, to reflect changes in treatment patterns, technology, and other factors which may change the relative use of hospital resources.

(D) The Commission (established under subsection (e)(2)) shall consult with and make recommendations to the Secretary with respect to the need for adjustments under subparagraph (C), based upon its evaluation of scientific evidence with respect to new practices, including the use of new technologies and treatment modalities. The Commission shall report to the Congress with respect to its evaluation of any adjustments made by the Secretary under subparagraph (C).

Section 1886(e)(2) through (6) of the Social Security Act

(2) The Director of the Congressional Office of Technology Assessment (hereinafter in this subsection referred to as the “Director” and the “Office,” respectively) shall provide for appointment of a Prospective Payment Assessment Commission (hereinafter in this subsection referred to as the “Commission”), to be composed of independent experts appointed by the Director (without regard to the provisions of title 5, United States Code, governing appointments in the competitive service). In addition to carrying out its functions under subsection (d)(4)(D), the Commission shall review the applicable percentage increase factor described in subsection (b)(3)(B) and make recommendations to the Secretary on the appropriate

percentage change which should be effected for hospital inpatient discharges under subsections (b) and (d) for fiscal years beginning with fiscal year 1986. In making its recommendations, the Commission shall take into account changes in the hospital market-basket described in subsection (b)(3)(B), hospital productivity, technological and scientific advances, the quality of health care provided in hospitals (including the quality and skill level of professional nursing required to maintain quality care), and long-term cost-effectiveness in the provision of inpatient hospital services.

(3)(A) The Commission, not later than March 1, before the beginning of each fiscal year (beginning with fiscal year 1989), shall report its recommendations to the Secretary on an appropriate change factor which should be used for inpatient hospital services for discharges in that fiscal year.

(B) The Secretary, not later than April 1, 1987, for fiscal year 1988 and not later than March 1 before the beginning of each fiscal year (beginning with fiscal year 1989), shall report to the Congress the Secretary’s initial estimate of the percentage change that the Secretary will recommend under paragraph (4) with respect to that fiscal year.

(4) Taking into consideration the recommendations of the Commission, the Secretary shall recommend for each fiscal year (beginning with fiscal year 1988) an appropriate change factor for inpatient hospital services for discharges in that year which will take into account amounts necessary for the efficient and effective delivery of medically appropriate and necessary care of high quality. The appropriate change factor may be different for all large urban subsection (d) hospitals, other urban subsection (d) hospitals, urban subsection (d) Puerto Rico hospitals, rural subsection (d) hospitals, and rural subsection (d) Puerto Rico hospitals, and all other hospitals and units not paid under subsection (d), and may vary among such other hospitals and units.

(5) The Secretary shall cause to have published in the Federal Register, not later than:

(A) May 1 before each fiscal year (beginning with fiscal year 1986), the Secretary’s proposed recommendation under paragraph (4) for that fiscal year for public comment, and

(B) September 1 before such fiscal year after such consideration of public comment on the proposal as is feasible in the time available, the Secretary's final recommendation under such paragraph for that year.

The Secretary shall include in the publication referred to in subparagraph (A) for a fiscal year the report of the Commission's recommendations submitted under paragraph (3) for that fiscal year.

(6)(A) The Commission shall consist of 17 individuals. Members of the Commission shall first be appointed no later than April 1, 1984, for a term of three years, except that the Director may provide initially for such shorter terms as will insure that (on a continuing basis) the terms of no more than seven members expire in any one year.

(B) The membership of the Commission shall include individuals with national recognition for their expertise in health economics, hospital reimbursement, hospital financial management, and other related fields, who provide a mix of different professionals, broad geographic representation, and a balance between urban and rural representatives, including physicians and registered professional nurses, employers, third party payors, individuals skilled in the conduct and interpretation of biomedical, health services, and health economics research, and individuals having expertise in the research and development of technological and scientific advances in health care.

(C) Subject to such review as the Office deems necessary to assure the efficient administration of the Commission, the Commission may:

(i) employ and fix the compensation of an Executive Director (subject to the approval of the Director of the Office) and such other personnel (not to exceed 25) as may be necessary to carry out its duties (without regard to the provisions of title 5, United States Code, governing appointments in the competitive service);

(ii) seek such assistance and support as may be required in the performance of its duties from appropriate Federal departments and agencies;

(iii) enter into contracts or make other arrangements, as may be necessary for the conduct

of the work of the Commission (without regard to section 3709 of the Revised Statutes (41 U.S.C. 5));

(iv) make advance, progress, and other payments which relate to the work of the Commission;

(v) provide transportation and subsistence for persons serving without compensation; and

(vi) prescribe such rules and regulations as it deems necessary with respect to the internal organization and operation of the Commission.

Section 10(a)(1) of the Federal Advisory Committee Act shall not apply to any portion of a Commission meeting if the Commission, by majority vote, determines that such portion of such meeting should be closed.

(D) While serving on the business of the Commission (including travel-time), a member of the Commission shall be entitled to compensation at the per diem equivalent of the rate provided for level IV of the Executive Schedule under section 5315 of title 5, United States Code; and while so serving away from home and his regular place of business, a member may be allowed travel expenses, as authorized by the Chairman of the Commission. Physicians serving as personnel of the Commission may be provided a physician comparability allowance by the Commission in the same manner as Government physicians may be provided such an allowance by an agency under section 5948 of title 5, United States Code, and for such purpose subsection (i) of such section shall apply to the Commission in the same manner as it applies to the Tennessee Valley Authority.

(E) In order to identify medically appropriate patterns of health resources use in accordance with paragraph (2), the Commission shall collect and assess information on medical and surgical procedures and services, including information on regional variations of medical practice and lengths of hospitalization and on other patient-care data, giving special attention to treatment patterns for conditions which appear to involve excessively costly or inappropriate services not adding to the quality of care provided. In order to assess the safety, efficacy, and cost-effectiveness of new and existing medical and surgical procedures, the

Commission shall, in coordination to the extent possible with the Secretary, collect and assess factual information, giving special attention to the needs of updating existing diagnosis-related groups, establishing new diagnosis-related groups, and making recommendations on relative weighting factors for such groups to reflect appropriate differences in resource consumption in delivering safe, efficacious, and cost-effective care. In collecting and assessing information, the Commission shall:

(i) utilize existing information, both published and unpublished, where possible, collected and assessed either by its own staff or under other arrangements made in accordance with this paragraph;

(ii) carry out, award grants or contracts for, original research and experimentation, including clinical research, where existing information is inadequate for the development of useful and valid guidelines by the Commission; and

(iii) adopt procedures allowing any interested party to submit information with respect to medical and surgical procedures and services (including new practices, such as the use of new technologies and treatment modalities), which information the Commission shall consider in making reports and recommendations to the Secretary and Congress.

(F) The Commission shall have access to such relevant information and data as may be available from appropriate Federal agencies and shall assure that its activities, especially the conduct of original research and medical studies, are coordinated with the activities of Federal agencies.

(G)(i) The Office shall report annually to the Congress on the functioning and progress of the Commission and on the status of the assessment of medical procedures and services by the Commission.

(ii) The Office shall have unrestricted access to all deliberations, records, and data of the Commission, immediately upon its request.

(iii) In order to carry out its duties under this paragraph, the Office is authorized to expend reasonable and necessary funds as mutually agreed upon by the Office and the Commission. The

Office shall be reimbursed for such funds by the Commission from the appropriations made with respect to the Commission.

(H) The Commission shall be subject to periodic audit by the General Accounting Office.

(I)(i) There are authorized to be appropriated such sums as may be necessary to carry out the provision of this paragraph.

(ii) Eighty-five percent of such appropriation shall be payable from the Federal Hospital Insurance Trust Fund, and 15 percent of such appropriation shall be payable from the Federal Supplementary Medical Insurance Trust Fund.

(J) The Commission shall submit requests for appropriations in the same manner as the Office submits requests for appropriations, but amounts appropriated for the Commission shall be separate from amounts appropriated for the Office.

Section 1862(a) of the Social Security Act

(a) Notwithstanding any other provision of this title, no payment may be made under part A or part B for any expenses incurred for items or services:

(1)(A) which, except for items and services described in subparagraph (B), (C), or (D), are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member,

(B) in the case of items and services described in section 1861(s)(10), which are not reasonable and necessary for the prevention of illness,

(C) in the case of hospice care, which are not reasonable and necessary for the palliation or management of terminal illness,

(D) in the case of clinical care items and services provided with the concurrence of the Secretary and with respect to research and experimentation conducted by, or under contract with, the Prospective Payment Assessment Commission or the Secretary, which are not reasonable and necessary to carry out the purposes of section 1886(e)(6), . . .

Section 1135(d) of the Social Security Act

(1) The Secretary shall develop a fully prospective payment system for ambulatory surgical procedures performed on patients in hospitals on an outpatient basis.

(2) The system shall, to the extent practicable, provide for an inclusive payment rate for ambulatory surgical procedures, performed on patients in hospitals on an outpatient basis, which rate encompasses payment for facility services and all medical and other health services, other than physicians' services, commonly furnished in connection with such procedures.

(3) The system shall provide for appropriate payment rates with respect to such procedures. In establishing such rates, the Secretary shall consider whether a differential payment rate is appropriate for specialty hospitals.

(4) Such rates shall take into account at least the following considerations:

(A) The costs of hospitals providing ambulatory surgical procedures.

(B) The costs under this title for payment for such procedures performed in ambulatory surgical centers.

(C) The extent to which any differences in such costs are justifiable.

(5) The Secretary shall report to Congress—

(A) an interim report on the development of the system by April 1, 1988, and

(B) a final report on such system by April 1, 1989.

The report under subparagraph (B) shall include recommendations concerning the implementation of the payment system for ambulatory surgical procedures performed on or after October 1, 1989.

(6)(A) The Secretary shall develop a model system for the payment for outpatient hospital services other than ambulatory surgery.

(B) The Secretary shall submit a report to Congress on the model payment system under subparagraph (A) by January 1, 1991.

(7) The Secretary shall solicit the views of the Prospective Payment Assessment Commission in developing the systems under paragraphs (1) and (6), and shall include in the Secretary's reports under this subsection any views the Commission may submit with respect to such systems.

H.R. Rep. No. 911, 98th Cong., 2d Sess. 140 (1984)

(Report of the Committee on Appropriations,
Pub. L. 98-619)

The Committee believes that the role of the Commission is that of a highly knowledgeable independent panel to advise the executive and legislative branches on the Medicare reimbursement system. While this advice includes rate setting and technology assessment, the Committee believes that the primary role of the Commission lies in a broader evaluation of the impact of Public Law 98-21 on the American health care system. The Committee therefore directs that the Commission submit an annual report to the Congress which expresses its view on these issues.

Section 9114 of the Consolidated Omnibus Budget Reconciliation Act of 1985, Pub. L. 99-272

(a) **Disclosure of Information**—The Secretary of Health and Human Services shall make available to the Prospective Payment Assessment Commission, the Congressional Budget Office, the Comptroller General, and the Congressional Research Service the most current information on the payments being made under section 1886 of the Social Security Act to individual hospitals. Such information shall be made available in a manner that permits examination of the impact of such section on hospitals.

(b) **Confidentiality**—Information disclosed under subsection (a) shall be treated as confidential and shall not be subject to further disclosure in a manner that permits the identification of individual hospitals.

**H.R. Rep. 99-289, 99th Congress, 1st Sess.
156 (1985)**

(Report of the Committee on Appropriations,
Pub. L. 99-591)

The Commission is assigned a broad range of duties under the law, including advice on the annual update of the DRG payment levels, advice on restructuring individual DRG's based on new procedures or technologies and general advice on the impact of the new reimbursement system on the cost, quality and effectiveness of the Medicare system in particular and the American health care system in general. . . . The Committee expects the Commission to more formally organize its research program and to include in its FY 1988 budget request a formal research plan which reviews FY 1985 and 1986 work and lays out an agenda for FY 1987 and 1988. . . . The Committee encourages the Commission to implement procedures to assure a broad range of viewpoints and information.

**Section 4006(c) of Pub. L. 100-203,
Omnibus Budget Reconciliation Act of 1987**

The Prospective Payment Assessment Commission shall study and report to the Committee on Ways and Means of the House of Representatives and the Committee on Finance of the Senate, by not later than May 1, 1988, on the suitability and feasibility of linking payment for capital-related costs under part A of title XVIII to hospital occupancy rates.

**Section 4008 of Pub. L. 100-203, Omnibus
Budget Reconciliation Act of 1987**

(1) Increase in Outlier Payments for Burn Center DRGs—

(A) In general—For discharges classified in diagnosis-related groups relating to burn cases and occurring on or after April 1, 1988, and before October 1, 1989, the marginal costs of care permitted by the Secretary of Health and Human Services under section 1886(d)(5)(A) (iii) of the Social Security Act shall be 90 percent of the appropriate per diem cost of care or 90 percent of the costs for cost outliers.

(2) Limitation on Changes in Outlier Regulations—

(B) ProPAC Report—The chairman of the Prospective Payment Assessment Commission shall report to the Congress and the Secretary of Health and Human Services, by not later than June 1, 1988, on the method of payment for outlier cases under such section and providing more adequate and appropriate payments with respect to burn outlier cases.

**Section 4009(h)(1) of Pub. L. 100-203,
Omnibus Budget Reconciliation Act of 1987**

The Prospective Payment Assessment Commission shall evaluate the study conducted by the Secretary of Health and Human Services pursuant to section 603(a)(2)(C)(i) of the Social Security Amendments of 1983 (relating to the feasibility, impact, and desirability of eliminating or phasing out separate urban and rural DRG prospective payment rates) and report its conclusions to the Congress not later than March 1, 1988.

**Section 4009(h)(2) of Pub. L. 100-203,
Omnibus Budget Reconciliation Act of 1987**

The Prospective Payment Assessment Commission shall evaluate the desirability of maintaining separate DRG prospective payment rates for hospitals located in large urban areas (as defined in section 1886(d)(2)(D) of the Social Security Act) and in other urban areas, and shall report to Congress on such evaluation not later than January 1, 1989.

**Section 4009(h)(3) of Pub. L. 100-203,
Omnibus Budget Reconciliation Act of 1987**

The Prospective Payment Assessment Commission shall perform an analysis to determine the feasibility and appropriateness of adjusting the non-wage-related portion of the adjusted standardized amounts under section 1886(d)(3) of the Social Security Act based on area differences in hospitals' costs (other than wage-related costs) and input prices. The Commission shall report to the Congress on such analysis by not later than October 1, 1989.

PROSPECTIVE PAYMENT TERMS

The following terms are frequently referenced in discussions concerning the Medicare prospective payment system (PPS). ProPAC has developed many of the definitions consistent with its use of the terms in Commission documents. Other definitions are from 42 Code of Federal Regulations (CFR), as amended October 1987; the *Federal Register* (FR); various Health Care Financing Administration (HCFA) publications; and other sources.

Alternative Case-Mix Measurement Systems—

Patient classification systems other than the DRGs, which can be used to measure hospital case mix. Some patient classification systems assign cases to categories based on data currently available from the medical record discharge abstract. Other systems use additional data to classify patients. (ProPAC)

Assignment Criteria—The rules that determine how patients are classified into categories within a particular patient classification system. These criteria determine the selection of relevant classification variables and the method for combining these variables into patient categories. (ProPAC, revised)

Budget Neutrality—The legislative requirement that Medicare payment for total inpatient operating costs to hospitals under the prospective payment system during fiscal years 1984 and 1985 should be neither more nor less than the estimate of what would have been paid under the law in effect (the Tax Equity and Fiscal Responsibility Act) prior to enactment of prospective payment. More generally, budget neutrality can refer to a requirement that changes in the PPS payment policy not affect total PPS spending. (ProPAC)

Capital—Medicare capital payments generally relate to tangible fixed assets of a hospital, such as plant and equipment, which are of a relatively permanent nature and are intended for use in future periods. Most Medicare capital payments are for depreciation and interest. (ProPAC, revised)

Case Complexity (Patient Complexity)—A measure of the mix of patient types and their resource use within a particular patient category. (ProPAC)

Case Mix—The mix of patient types treated within a particular institutional setting, such as the hospital. Patient classification systems, such as the DRG system, can be used to measure hospital case mix. As a result, patient classification systems are also known as case-mix measures or case-mix systems. (ProPAC, revised)

Case-Mix Index (DRG Case-Mix Index)—A measure of the costliness of cases treated by a hospital relative to the cost of the national average of all Medicare hospital cases, using diagnosis-related group (DRG) weights as a measure of relative costliness of cases. (HCFA)

Charge—The amount of money asked for by a seller in return for a product or a service. A hospital's charge is equivalent to its list price for a service. Medicare, Medicaid, most Blue Cross plans, and some other payers, however, do not pay charges for inpatient hospital services. Thus, the charge is not the price from Medicare's or certain other payers' perspectives. (ProPAC, revised)

Children's Hospital—A children's hospital must have a [Medicare] provider agreement and be engaged in furnishing services to inpatients who are predominantly individuals under the age of 18. (42 CFR sec. 412.23 [d])

Claim—A request to a third-party payer (e.g., private insurer, government payment program, or employer payment program) by a person covered by the third-party program or an assignee (usually a provider of service) for payment of benefits covered by the third party. (ProPAC)

Classification—The act or process of systematically arranging in groups or categories according to established criteria. Under PPS, patients are classified into disease categories using the ICD-9-CM classification system and then further grouped into diagnosis-related groups. (ProPAC)

Comorbidity—For the purposes of PPS, a pre-existing condition that will, in the opinion of clinical experts, increase length of stay by at least one day in approximately 75 percent of cases with a specific diagnosis. HCFA has defined a set of conditions that are considered comorbidities. (ProPAC, revised)

Complication—For the purposes of PPS, a condition that arises during the hospital stay which, in the opinion of clinical experts, prolongs length of stay by at least one day in approximately 75 percent of cases. HCFA has defined a list of conditions that are considered complications. (ProPAC, revised)

Cost—The cost to the buyer is the amount of money or price paid by the buyer to acquire a good or service. The cost to the seller is the amount of money or price paid by the seller for the inputs used to produce a service or good. (ProPAC)

Cost Allocation—The process of assigning overhead costs (or general service cost centers) to revenue-producing cost centers. These overhead costs are allocated through a process referred to as “step down.” In the step-down process the costs of each overhead department are allocated to other departments until all costs are assigned to a revenue-producing center. (ProPAC)

Cost Apportionment—The process of distributing all costs between Medicare and other payers. Costs are apportioned by ancillary department using the ratio of costs to charges applied to gross Medicare charges (RCCAC). (ProPAC)

Cost-Based Reimbursement—A method of paying for services based on the costs incurred by a provider to furnish those services. (ProPAC, revised)

Diagnosis-Related Groups (DRGs)—A system for determining case mix. Originally developed by researchers at Yale University, the DRG system classifies patients into groups based on the International Classification of Diseases, the presence of a surgical procedure, patient age, presence or absence of significant comorbidities or complications, and other relevant criteria. The DRGs attempt to categorize patients into clinically coherent and homogeneous groups with respect to resource use. PPS currently uses 475 mutually exclusive DRGs to classify patients and determine case mix. DRG 468 represents cases in which the principal procedure is unrelated to the valid principal diagnosis. In addition, DRG codes 469 and 470 may be assigned if the fiscal intermediary finds certain errors in bills submitted by hospitals. (ProPAC, revised)

Diagnosis-Related Group Weight—A number intended to reflect the relative resource use associated with each DRG. That is, each DRG weight reflects, across all hospitals, the average cost of treating cases classified in that DRG compared with the average cost for all DRGs. For fiscal year 1988, the DRG weights range from .1309 for DRG 382 (false labor) to 11.9225 for DRG 103 (heart transplant). (ProPAC, revised)

Discharge—A hospital inpatient is considered discharged when: (1) the patient is formally released from the hospital (except when transferred to another hospital under the prospective payment system—see Transfer); (2) the patient dies in the hospital; or (3) the patient is transferred to a hospital or unit that is excluded from the prospective payment system. (42 CFR sec. 412 [a])

Discretionary Adjustment Factor (DAF)—The quantitative expression of the Commission's judgment regarding the rate at which the Medicare standardized amounts should increase or decrease beyond inflation. This judgment reflects considerations outlined in the statute as well as other factors the Commission regards as important. The Commission's fiscal year 1989 DAF recommendation for PPS hospitals includes four components: (1) scientific and technological advancement, (2) hospital productivity change, (3) site-of-care substitution, and (4) real case-mix change. The Commission does not attribute a high degree of precision to its estimates of the individual components. (ProPAC, revised)

Encoder—A computer program used to determine the appropriate ICD-9-CM code assignment for diagnoses and procedures. (ProPAC)

Excluded Hospitals and Units—Children's, long-term care (average length of stay more than 25 days), rehabilitation, and psychiatric hospitals are specifically excluded from the prospective payment system. Rehabilitation or psychiatric “distinct part” subunits of acute care hospitals are exempted if they meet certain criteria as specified by the Secretary. Hospitals located in U.S. Territories (except Puerto Rico), Federal hospitals, and Christian Science sanatoria are also exempted. Cancer treatment and research facilities may receive an exemption if they meet criteria established by the Secretary. Excluded hospitals remain under

cost-based reimbursement, subject to the TEFRA target rate of increase limits. (42 CFR 412.23 and 412.25)

Exempt Hospitals and Units—See Excluded Hospitals and Units.

Expenditure—The amount of money paid for a good or service during a specified time period. The actual service or good could have been acquired or used prior, during, or subsequent to the period in which the money is paid. (ProPAC)

Federal Prospective Payment Amount—The portion of the total prospective payment rate derived from national and regional standardized prospective payment amounts. During the transition period of Medicare's prospective payment system, hospitals are paid at a rate that blends the Federal and hospital-specific portion (see Hospital-Specific Portion or Payment Amount). After the transition period, the payment rate is based entirely on the Federal standardized payment amount. From April 1, 1988 through September 30, 1990, the Federal rate will be based on the national average standardized amount, or a blend of 85 percent national and 15 percent regional amounts, whichever is higher. (ProPAC, revised)

Grouper—This is a computer program used in PPS by the intermediary to assign discharges to the appropriate DRG as well as to determine hospital payment. The program uses information abstracted from the inpatient medical record. Hospitals use the computer program for internal administrative purposes. (ProPAC, revised)

Heterogeneity—The degree of dissimilarity among cases within a patient category. *Clinical heterogeneity* indicates that patients have diagnoses or conditions which are not clinically related. *Resource-use heterogeneity* indicates that patients are treated using different amounts of resources (see Homogeneity). (ProPAC, revised)

Hospital Cost Report Information System (HCRIS)—Data set containing Medicare cost report data, as sent to HCFA from the fiscal intermediaries. An edited version of HCRIS is used by ProPAC in its analyses. (ProPAC, revised)

Homogeneity—The degree of similarity among cases within a patient category. Homogeneity is an

important criterion for developing and evaluating patient classification systems like the DRG system. *Clinical homogeneity* indicates that patients have similar diagnoses or conditions. *Resource-use homogeneity* indicates that patient treatments involve a similar amount of resources. (ProPAC, revised)

Hospital Market Basket—The set of goods and services purchased by hospitals. (ProPAC)

Hospital Market Basket (Input Price) Index—A hospital market basket index is constructed by: (1) specifying the inputs that hospitals purchase and combining inputs into components, (2) determining a weight for each component that represents its share of total hospital expenses, and (3) identifying measures of price changes for each component. The overall change in the price of the market basket is computed by multiplying each component's price change by its weight to arrive at a product for each. All products are then added. (ProPAC, revised)

Hospital-Specific Portion or Payment Amount—During the transition period of the prospective payment system, the portion of the Medicare prospective payment rate that is derived from each hospital's own cost experience. (ProPAC, revised)

Intermediary (Fiscal Intermediary)—An entity that has a contract with HCFA to determine and make Medicare payments for Part A or Part B benefits. The fiscal intermediary performs other related functions like auditing and resolving cost disputes. (ProPAC, revised)

International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)—A system for classifying diseases and procedures to facilitate collection of uniform and comparable health information. This system is the basis for grouping patients into DRGs. The disease classification is revised every ten years, and the ICD-9 is the ninth version. (HCFA)

Long-Term Care Hospital—A long-term care hospital must have a Medicare provider agreement and an average inpatient length of stay exceeding 25 days. (42 CFR sec. 412.23 [e])

Major Diagnostic Category (MDC)—Within the DRG classification system, there are 23 MDCs

based on body system involvement and disease etiology. All DRGs except 468 through 470 fit into one of the 23 MDCs. (ProPAC, revised)

Market Basket—See Hospital Market Basket.

Medical Technology—The drugs, devices, and medical and surgical procedures used in medical care, and the organizational and supportive systems within which such care is provided. (OTA)

Medicare Cost Report (MCR)—An annual report required of all institutions participating in the Medicare program that is used to identify Medicare-reimbursable costs. The costs are defined and reported following specific guidelines established by the Medicare program. The 1981 MCRs were used to develop both the Federal standardized amounts and the original DRG weights. (ProPAC, revised)

Medicare Provider Analysis and Review File (MEDPAR File)—A HCFA data file that contains billed charge data and clinical characteristics, such as principal diagnosis and principal procedures, for Medicare discharges during a fiscal year. Before 1984, the MEDPAR file contained only a 20 percent sample of inpatient bills submitted by hospitals. Since 1985, the MEDPAR file has included bills on all Medicare inpatient discharges. For 1984, the comparable file is called the PATBILL file. (ProPAC, revised)

Morbidity—A diseased state; often used in the context of a “morbidity rate,” i.e., the rate of disease or proportion of diseased persons in a population. In common clinical usage, any disease state, including diagnoses and complications, is referred to as morbidity. (ProPAC, revised)

Non-Physician Services—All services furnished inpatients that do not meet criteria of physician services as set forth in 42 CFR 405.550 (b). Non-physician services include, for example, services of a physical therapist or radiology technician. (49 FR 290 and 42 CFR 405.310 [m])

Normalization—A step in the recalibration or reweighting process in which an adjustment factor is applied to the DRG weights so that the average weight of all PPS discharges is the same after recalibration or reweighting as it was before. (ProPAC, revised)

Outliers—These are cases with extremely long lengths of stay (day outliers) or extraordinarily high costs (cost outliers) when compared to other discharges classified in the same DRG. (52 FR 33047 [1987])

Patient Bill File (PATBILL)—A HCFA data file that contains billed charge data and clinical characteristics, such as principal diagnosis and principal procedures, for all 1984 Medicare inpatient hospital bills. The equivalent file in subsequent years is called the MEDPAR file. (ProPAC, revised)

Patient Categories—The groups to which cases are assigned within a particular patient classification system. Patient categories are typically designed to be both understandable to the medical community and homogeneous with respect to resource use. (ProPAC)

Patient Classification System—A set of patient categories, along with the criteria for assigning cases to those categories. Patient classification systems can be used to measure hospital case mix. (ProPAC, revised)

Payment—The generic term for various types of monetary compensation for services received or goods acquired. Payment can be made before or after services are received or goods are acquired. (ProPAC)

Peer Review Organizations (PROs)—Successor organizations to Professional Standards Review Organizations (PSROs), which perform medical peer review of Medicare claims. Among the areas reviewed are: validity of hospital diagnosis and procedure information; completeness, adequacy, and quality of care; appropriateness of admission and discharge; and appropriateness of PPS outlier cases. A PRO consists of, or has available, a substantial number of MDs or DOs to carry out the review. HCFA contracts for PRO review for all Medicare patients in a specified geographic area. In the absence of a PRO, the fiscal intermediary performs these reviews. (ProPAC, revised)

Physician Services—Medical services to individual patients payable under Part B of Medicare if: (1) the services are personally furnished to an individual patient by a physician; (2) the services

contribute directly to the diagnosis or treatment of an individual patient; (3) the services ordinarily require performance by a physician; and (4) if applicable, the services meet certain special rules that apply to services of certain physician specialists. (48 FR 39794 [1983])

Price—As generally used, the amount of money asked for by a seller in return for a good or service. In the Medicare PPS, the price for a hospital discharge is set by the buyer, the Medicare program. (ProPAC)

Principal Diagnosis—That condition which after study is determined to be the reason chiefly responsible for occasioning the admission of the patient to the hospital. (48 FR 39761 [1983])

Principal Procedure—The principal procedure is: (1) the one most related to the principal diagnosis; or (2) the one that was performed for definitive treatment rather than for diagnostic or exploratory purposes, or was necessary to treat a complication. If only one procedure is performed, it is considered the principal procedure. (HCFA)

Prospective Payment (Pricing)—A method of paying for health care services in which: (1) full amounts or rates of payment are established in advance, and (2) providers are paid these amounts or rates regardless of the costs they actually incur. A distinction is sometimes made between payment and pricing based on whether payment is made in advance for services or the price is simply set in advance. (ProPAC)

Psychiatric Hospital—An institution that: (1) primarily engages in providing, by or under the supervision of a physician, psychiatric services for the diagnosis and treatment of mentally ill persons; (2) satisfies the statutory requirements of a “hospital”; (3) maintains clinical records on all patients such that the degree and intensity of the treatment provided can be readily discerned; (4) meets the special staff requirements for psychiatric hospitals; and (5) is accredited by the Joint Commission on Accreditation of Health Care Organizations. (48 FR 39755 [1983])

Real Case-Mix Change—Changes in the mix of patients and the treatments they receive. ProPAC recognizes two sources of real case-mix change—

within-DRG case-complexity change and across-DRG patient distributional change. (ProPAC, revised)

Reasonable Charges—Basis of payment under which Medicare Part B medical and other health services are paid. The reasonable charge is the lowest of the actual charge billed by the physician or supplier, the charge the physician or supplier customarily bills patients for the same service, or the prevailing charge most physicians or suppliers in that locality bill for the same service. In the future, the term “allowed charge” will replace the term “reasonable charge.” (ProPAC, revised)

Reasonable Costs—Medicare’s determination of a provider’s necessary and proper direct or indirect costs for the efficient delivery of needed health care services to Medicare beneficiaries. Historically, services to beneficiaries covered by Medicare Part A were reimbursed on the basis of reasonable cost. (ProPAC, revised)

Rebasing of PPS Standardized Amounts—Development of new standardized amounts through the following process: recalculation using more recent data, updating to the payment year, and publication for payment purposes. The term rebasing can be used in two additional ways. More broadly, it can refer to an adjustment to the level of the standardized amounts before applying the update factor. It can also mean redefining the components of the standardized amounts using more recent data. Such components include the case-mix index and indirect teaching adjustment. These changes could be made with or without a change in the level of the standardized amounts. (ProPAC, revised)

Rebundling of Hospital Payment—Payment to hospitals for inpatient services that formerly were paid to other suppliers under separate billing. For Medicare, rebundling means paying hospitals, under Part A, for non-physician services that, before PPS, were paid to other suppliers under Part B. An illustration of rebundling is including certain laboratory tests in the Part A payment that previously were billed separately under Part B. (ProPAC, revised)

Recalculation of Standardized Amounts—Recalculation of the PPS standardized amounts

using more recent cost data to rebase or determine the update factor. (ProPAC, revised)

Recalibration—The adjustment of all DRG weights to reflect changes in relative resource use associated with all existing DRG categories or the creation of new DRG categories or both. Recalibration is always accompanied by normalization. (ProPAC, revised)

Reclassification—The creation, elimination, or modification of a limited set of DRG categories, including the reassignment of certain diagnostic or procedure codes from one DRG category to another. After reclassification, the resulting categories may need to be reweighted. (ProPAC, revised)

Rehabilitation Hospital—A hospital which has a provider agreement with Medicare, treats an inpatient population of which at least 75 percent require intensive rehabilitative services for one or more of the conditions which are specified in regulation, and which meets other criteria specified by the Secretary in regulation. A rehabilitation hospital must provide active treatment in a number of therapeutic disciplines including physical and occupational therapy. (FR 39819 [1983] and 42 CFR 412.23 [a])

Reimbursement—Payment for expenses already incurred. (ProPAC, revised)

Restructuring—A systematic modification of the DRG system using more recent data, additional clinical variables, or new assignment criteria. (ProPAC)

Reweighting—The adjustment of only certain DRG weights to reflect changes in relative resource consumption. Reweighting can be done without reclassification. (ProPAC)

Site-of-Care Substitution (Component of the DAF)—The DAF component reflecting reductions in average inpatient resources per case caused by shifting services to settings outside the hospital for patients who would otherwise have received such services as hospital inpatients. This component reflects reductions attributable to shifting services for patients who are admitted to the hospital. It does not reflect the impact of diverting entire admissions to out-of-hospital care settings. (ProPAC, revised)

Sole Community Hospital (SCH)—A hospital that receives special designation by HCFA because it is the sole source of inpatient hospital services reasonably available to Medicare beneficiaries living in a geographic area. To be designated, a hospital must meet specific criteria relating to distance to nearest hospital, dominant market share, or difficult travel conditions related either to severe weather conditions or to local topography. If a hospital meets the criteria, it can: (1) receive periodic interim payments; (2) be exempt from capital payment ceilings; and (3) receive DRG payments based on a blended standardized amount reflecting a 75 percent hospital-specific payment amount and a 25 percent regional average payment amount. (ProPAC, revised)

Standardized Amounts—Components used to arrive at the Federal payment per discharge for hospitals under PPS. Federal payment for a discharge equals the standardized amount times the hospital's wage index, teaching adjustment, disproportionate share adjustment, and the relevant DRG weight. The original standardized amounts were developed by averaging hospital-level historic average costs per discharge. These costs are standardized for individual hospital differences in area wage rates, hospital teaching status, disproportionate share status, and DRG case mix. The averaged amounts are adjusted for outlier payments and updated. Currently, there are 20 standardized amounts—18 regional amounts (urban/rural amounts for each of nine census regions) and two national amounts (urban/rural). (See also Federal Prospective Payment Amount.) (ProPAC, revised)

Transfer—For the purposes of PPS, a transfer is defined as the movement of a patient: (1) from one inpatient area or unit of the hospital to another area or unit of the hospital; (2) from the care of a hospital paid under prospective payment to the care of another such hospital; or, (3) from the care of a hospital under prospective payment to the care of a hospital in an approved statewide cost control program.

(48 FR 39818 [1983] and 42 CFR 412.4 [h])

Transition—The period during which PPS payments were based on a blend of hospital-specific and Federal rates. In fiscal year 1984, payments were based on 25 percent Federal and 75 percent hospital-specific rates. The hospital-specific rates

declined during the transition. During fiscal year 1989, payments to all hospitals except Sole Community Hospitals will be based entirely on Federal rates. (ProPAC, revised)

Unbundling of Hospital Payment—Separate payment to non-hospital suppliers for services provided to hospital inpatients. For Medicare, unbundling of hospital payment refers to the billing under Part B for non-physician services to hospital inpatients which are furnished to the hospital by an outside supplier or another provider. Except where a waiver has been granted by the Secretary, this form of unbundling is prohibited under PPS and all non-physician services provided in an inpatient setting must be paid as hospital services. (48 FR 39792-93 [1983])

Unbundling of Hospital Inpatient Services—The provision of services on an outpatient basis that formerly were furnished to inpatients (e.g., performing diagnostic studies before a patient's admission, or providing rehabilitation services after the patient's discharge). Alternatively, unbundling can be viewed as the provision of hospital services by lease or other administrative arrangement with other suppliers. Unbundling of inpatient hospital services is not prohibited by law. (ProPAC, revised)

Uniform Hospital Discharge Data Set (UHDDS)—A defined set of data, developed from the Uniform Hospital Abstract Minimum Data Set, which gives a minimum description of a hospital

episode or admission. The UHDDS includes data on the age, sex, race, and residence of the patient; length of stay; diagnosis; responsible physicians; procedures performed; disposition of the patient; and source of payment. The UHDDS was originally developed by the National Center for Health Statistics. Since 1974, the Department of Health and Human Services has employed the UHDDS to assemble information on patients in the Medicare and Medicaid programs. (ProPAC, revised)

Upcoding—Changes in medical record charting and coding practices that result in an increase in the average DRG weight. Under PPS, hospitals have an incentive to upcode medical records, for example, by coding more thoroughly and accurately. This results in a different pattern of DRG assignments. Increases in case-mix index resulting from upcoding do not, however, reflect an actual rise in resource use. (ProPAC, revised)

Update Factor (Rate of Increase Factor)—The percentage change applied to the previous year's payment rates that results in new standardized amounts. According to statute, the update factor should take into account the amounts necessary for the efficient and effective delivery of high-quality medically appropriate and necessary care. ProPAC's update factor recommendation is required to reflect changes in the prices of goods and services purchased by hospitals (the hospital "market basket") as well as changes in hospital productivity, technological advances, quality of care, and long-term cost-effectiveness of services. (ProPAC, revised)

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